TEXTILE TECHNOLOGY DIGEST

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ABSTRACTS

FIBERS A

Natural fibers A1

COTTON COUNTS ITS CUSTOMERS: THE QUANTITY OF COTTON CONSUMED IN FINAL USES IN THE UNITED STATES. Revised 1958 and preliminary 1959. Utilization Research Div., National Cotton Council of America, Memphis, Tenn. July 1960. 35 p. Free. (3846)

OBSERVATIONS ON THE ASSOCIATION OF ACETYL GROUP WITH COMPONENTS OF JUTE. A. B. Sen Gupta, A. Roy, and W. G. MacMillan (Indian Jute Mills Assoc. Research Inst.). J. Sci. Ind. Research (India) 19B: 249-252 (July 1960). (3847)

A method is described for extracting the major portion of hemicellulose from the isolated holocellulose with water under pressure. Analyses of the crude and purified products indicate that the acetyl group constitutes a characteristic functional group of hemicellulosic components, although a small amount seems to be in combination with alpha-cellulose. Tables, 14 refs.

CHEMISTRY AND STRUCTURE OF JUTE. W. A. Bell. Sci. News No. 54: 39-56 (1960). Through BCIRA 40: 2720 (1960). (3848)

PROGRESS REPORT ANNUAL VARIETAL AND ENVIRONMENTAL STUDY OF FIBER AND SPINNING PROPERTIES OF COTTONS: 1959 CROP. U. S. Agri. Research Serv., Washington, D. C. July 1960. 71 p. (3849)

Results of fiber and yarn tests on current varieties and experimental strains from the 1959 crop. The fiber and yarn tests were made primarily to evaluate new strains and varieties that have been recently developed or are in the process of being developed throughout the cotton belt.

TRENDS IN COTTON PROCESSING EQUIPMENT. R. Charlebois (Dominion Textile Co. Ltd). Can. Textile Seminar 7: 175-178 (Sept. 1960). (3850)

Progress made in opening, carding, combing, drawing, roving, spinning, warping, sizing, and weaving since the end of World War II is briefly reviewed.

WOOL WAREHOUSES AND THEIR OPERATION IN CENTRAL AND EASTERN STATES. R. L. Holland, L. P. Gabbard, and A. D. Jones. U. S. Agri. Mktg. Serv., Washington 25, D. C. Feb. 1960. 54 p. Mktg. research report no. 383. Available from Superintendent of Documents, Washington 25, D. C. 30¢. (3851)

PROCEEDINGS OF THE TWENTY-FIRST AMERICAN COTTON CONGRESS, May 2, 3, 1960. Cotton Research Committee of Texas, College Station, Texas. 1960. 97 p. $2.00. (3852)

Includes papers on cotton growing, cotton breeding, and cotton economics; also: Wash-and-wear, by H. M. Waddle, p. 66-73.

COLORED COTTONS OF INDIA. Indian Central Cotton Comm. Indian Textile J. 70: 549 (July 1960). (3853)

A note on the various colored cottons grown in India.

Manmade fibers A2

MANMADE FIBERS AND TODAY'S HOME FURNISHING FABRICS. B. Kroll (Boris Kroll Fabrics, Inc.). Can. Textile Seminar 7: 191-195 (Sept. 1960). (3854)

Problems that arise in the design, manufacture, and consumer use of upholstery fabrics are discussed.

ION-BOMBARDMENT ETCHING OF SYNTHETIC FIBERS. F. R. Anderson and V. F. Holland (Chemstrand Corp.). J. Appl. Phys. 31: 1516-1518 (Sept. 1960). (3855)

An ion-bombardment etching method was used to prepare synthetic fiber samples for study in the electron microscope. Reproducible results were obtained by bombardment in a constantly changing argon atmosphere at a pressure of 1-2 cm Hg for 2-5 min. The etch patterns produced by this method were characteristic of the orientation of the fiber samples which were investigated. Micrographs, 8 refs.

DIRECTORY OF U. S. MANMADE FIBER PRODUCERS. Textile Organon 31: 150-155 (Sept. 1960). (3856)

Information is given on executive and sales offices, on plant locations, and on trademarks.

NYLON 6 OR 66: WHAT IS THE DIFFERENCE? J. T. Worsley. Skinner's Silk & Rayon Record 34: 741-742 (Aug. 1960). (3857)

The relative merits of nylon 6 (made by the polymerization of the condensation product of adipic acid and hexamethylene diamine) and nylon 66 (made by the polymerization aminocaproic acid) are compared.

ORLON TYPE 72 ACRYLIC STAPLE. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Sept. 1960. 2 p. Bull. NP-17. Free. (3858)

Properties and processing of Orlon 72.

TAILOR-MADE ORLON ACRYLIC FIBERS. M. Q. Webb (E. I. du Pont de Nemours & Co.). Can. Textile Seminar 7: 107-110 (Sept. 1960). (3859)

The various families of Orlon fibers and their property variations are summarized. Through a study of the properties required in a fiber for a given end use, specifications for a product to fit in this market have been devised. Photo, photomicrograph, graph, table, 4 refs.

ORLON TYPE 25 ACRYLIC FIBER. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Sept. 1960. 2 p. Bull. OR-106 (replaces Bull. NP-7). Free. (3860)

Yarn characteristics and bleaching and dyeing procedures are discussed.

POLYESTER FIBER IN THE WORSTED APPAREL TRADE. Can. Textile Seminar 7: 40-47 (Sept. 1960). (3861)

Designing, by R. Hughes-Games, p. 40-41; Dyeing, by W. Hulme, p. 42-43; Role of the fiber producer in design and quality control of fabrics, by F. Dawson, p. 44-47.

ALL THE ADVANTAGES OF RAYON PLUS SM27, A MANMADE HIGH MODULUS CELLULOSIC FIBER. G. V. Lund and J. Wharton (Courtaulds Inc.). Textile Merc. 143: 205-206, 208-210 (Aug. 12, 1960). (3862)

The development of SM27 fiber was based on the reasoning that a fiber with a Hookean modulus when wet of the same order as that of cotton would not undergo progressive shrinkage in fabric form. Its physical and processing characteristics are described. Diagrs, graphs, tables, 6 refs.

LYCRA SPANDEX FIBER. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Sept. 1960. 23 p. Bull. NP-16 (replaces Bull. NP-10). Free. (3863)

YARN PRODUCTION B

PERMO SYSTEM OF CONDENSER SPINNING. William Tatham Ltd. Textile Recorder 78: 65-66 (Aug. 1960). (3864)

Details of the Permo system of condenser spinning, in which the slubbings are fed directly from the finisher card to a special ring frame, are described. The system is suitable for producing condenser yarns from 1s to 8s cotton count from all normal grades of cotton waste, staple fiber, and mixtures, and is also of interest to the woolen trade. A typical sequence suitable for a normal comber waste mixing would consist of: hopper feed, breaker card, Scotch feed, finisher card, tape condenser, and Permo ring frame.

NEW DRESSING AGENTS OF THE AVIROL TYPE. Z. G. Serebryakova and O. G. Pikovskaya. Khim. Volok. No. 4: 34-35 (1959). In Russian. Through BCIRA 40: 722 (1960). (3865)

The preparation and physicomechanical properties of a new type of Avirol (obtained from sodium or ammonium salts of sulfonated fatty acids) is described and recommended as dressing agent for viscose rayon.

CHANGE IN THE PHYSICO-MECHANICAL PROPERTIES OF VISCOSE RAYON UNDER THE INFLUENCE OF DRESSING AGENTS. E. F. Filinkovskaya and A. B. Pakshver. Khim. Volok. No. 4: 30-34 (1959). In Russian. Through BCIRA 40: 723 (1960). (3866)

The method described for evaluating the action of dressing agents on yarn consists in determining the rate of sliding of the treated viscose yarn over a glass surface. The agents change the friction coefficient between the fibers and between the thread and the surface. The friction is reduced to a minimum in the presence of a small amount of agent on the fiber. On increasing the amount of agent, the friction increases. The sheer modulus (stiffness during twisting) decreases rapidly to a certain point and remains constant on increasing the amount of agent. The treated viscose yarn has a higher resistance to repeated dynamic stresses. The most effective agents are those that ensure uniform gliding of the thread.

CHEMICAL AIDS FOR COTTON SPINNING. W. F. Luther (Lutex Chem. Corp.). Am. Textile Reptr. 74: 63-65 (Aug. 18, 1960). (3867)

Early work with cotton spinning aids is discussed, and the development and effectiveness of SpinZit SM (colloidal silica spray) and SpinZit LPC (a nonsilica spray) are described.

SPINNING OF TERYLENE BLENDS ON THE WORSTED SYSTEM. J. P. Downs (Downs, Coulter (Canada) Ltd). Can. Textile Seminar 7: 37-39 (Sept. 1960). (3868)

Pointers on Terylene tops preparation, twist insertion, and tension control for processing Terylene/wool blends. Graphs, tables.

COMPARATIVE STUDY OF SHORT PROCESSES VERSUS CONVENTIONAL PROCESS IN COTTON SPINNING. N. C. Basu (Arvind Mills), and N. Pathak. Textile Dig. 21: 21-30 (Jan.-Mar. 1960). (3869)

Data are presented from a study comparing six short cotton processing systems with conventional processing. Yarn made on the conventional process was the best in so far as the average qualities were concerned. The yarn made on the bi-coil process was found to be very close to it. The bi-coil process was found to be the most promising one for the count considered and had the lowest total draft and doublings. Tables.

NEW CONCEPTION IN OPENING, PICKING, AND CARDING. H. J. Klaeui (Am. Rieter Co.). Can. Textile Seminar 7: 188-190 (Sept. 1960). (3870)

After a discussion of the conventional methods of opening, picking, and carding cotton, the author describes the Rieter system by means of which whole bales can be fed in any desired combination, and a complete machine group performs opening, picking, and carding automatically. The system comprises the Rieter carousel, automixer, cleaning machinery, distributors, picker section, pneumatic feeds, and cards.

MODERN FLAX SPINNING PRACTICE. S. A. G. Caldwell. Textile Recorder 78: 46-48, 59 (Aug. 1960). (3871)

Developments in and economics of the spreading, drawing, and roving stages in linen yarn production are considered. Photos.

Opening, picking, fiber preparation B1

POLISH SINGLE-PROCESS BLOW ROOMS. Z. Wedrowski. Indian Textile J. 70: 446-447 (May 1960). (3872)

The Polmatex standard cotton blowroom has 5 major cleaning points and consists of the following machines: 3 to 4 blending bale openers AD2 type, with traveling lattice of the UU-13 type; one vertical Crighton-type opener AH-1 (one major cleaning point); one horizontal AM-3 double opener, with feeder (two major cleaning points); one auxiliary feeder AG-3 type and an electromagnetic distributor AL-3 and two finisher pickers working parallel, each comprising a feeder, a double picker (two major cleaning points), and a lap forming apparatus (AG1 $\pm$ AE3 + AJ2).

COTTON OPENING, CLEANING, AND LAP FORMING MACHINERY. J. J. O'S. Taylor (Tweedales & Smalley Ltd). Can. Textile Seminar 7: 25-36 (Sept. 1960). (3873)

Following a brief review of current practices, the author examines how well present machine design satisfies the basic requirements of opening and picking and what future developments are likely. Photos, diagrs.

Carding and combing B2

MINIMIZING FIBER LOSS AT THE WOOLEN CARD. W. J. Crofts. Textile Inds. 124: 151-155 (Sept. 1960). (3874)

Factors affecting fiber waste at the woolen card and techniques of waste handling are discussed. Photos, diagrs, table.

ABBREVIATED GRINDING OF CARD CLOTHING. S. Burkhardt. Deut. Textiltech. 10, No. 4: 165-167 (1960). In German. Through BCIRA 40: 2623 (1960). (3875)

A method is described which makes it possible to grind cylinder and doffer clothing with an additional pregrinding roller in a shorter time than before with one grinding roller alone or one per cylinder and doffer. In addition to the shortened grinding time and the higher production associated with it, the economic advantages also comprise saving of labor and reduction in stopping periods.

CONVEX SHAPE FEED TABLE FOR CARDING MACHINES. L. I. Karpov. Tekhnol. Tekstil. Prom. No. 1 (14): 70-77 (1960). In Russian. Through BCIRA 40: 2621 (1960). (3876)

Theoretical considerations and experimental results proved the advantages of a convex feed table both for low quality and first grade cotton varieties. It may also be useful for fine fibered cotton. Suitable dimensions are given for medium fiber lengths (29-35 mm).

SRRL GRANULAR CARD. R. A. Rusca (So. Reg. Research Lab.). Can. Textile Seminar 7: 69-72 (Sept. 1960). (3877)

The theory, design, and performance of the granular card are presented. Photo, diagr, tables, 10 refs.

Drawing and roving B3

WINDING PROCESS PARAMETERS ON SPEED FRAMES DURING PROCESSING OF VISCOSE STAPLE FIBERS. Z. M. Orlova. Tekhnol. Tekstil. Prom. No. 1 (14): 60-69 (1960). In Russian. Through BCIRA 40: 2627 (1960). (3878)

Since the different behavior of viscose staple fiber and cotton roving during winding is due mainly to the different elasticity of the fibers, it is necessary to obtain data concerning the fiber elasticity in order to choose the correct number of teeth on the ratchet wheel and on the lifter wheel of the speed frame and to ensure constant tension of the roving during the whole doffing process. Equations for calculating the number of teeth on the ratchet wheels and for determining the roving diameter in axial and radial direction of the bobbin are given.

DEVICE FOR IMPROVING THE SLIVER REGULARITY ON COTTON DRAWFRAMES. H. Perner and O. Tschang-Gol. Deut. Textiltech. 10, No. 4: 168-171 (1960). In German. Through BCIRA 40: 2625 (1960). (3879)

The method developed by Aristov for the reduction of sliver irregularity by introducing diagonal delivery on cotton drawframes was modified for existing machines. A detour device was developed, which leads one of the two lap halves in a round about way to the condensing funnel. At a path difference corresponding to half the periphery of the front roller, a maximum equalization effect is obtained. Experiments show that the sliver regularity, as compared with that attainable by normal drafting, is improved up to 30%. The shape and construction of the device must be adapted in each case to existing drawframes.

PRINCIPLES OF ROLLER DRAFTING. A. E. De Barr (Brit. Cotton Ind. Research Assoc.). Textile Weekly 60 (2): 284, 287-288 (Aug. 5, 1960); 337-341 (Aug. 12, 1960); 391-393 (Aug. 19, 1960). (3880)

The fundamental principle of roller drafting, the conditions which must be fulfilled for drafting to take place, and the factors affecting sliver uniformity during drafting are discussed. Diagr, graphs.

EQUATIONS FOR THE ATTENUATION CURVE UNDER NONSTATIONARY OPERATING CONDITIONS OF THE DRAWFRAME. A. G. Sevost'yanov. Tekhnol. Tekstil. Prom. No. 1 (14): 47-59 (1960). In Russian. Through BCIRA 40: 2624 (1960). (3881)

It is shown that, under variable drafting conditions (caused by changes in distances, load, nature of stress curve, friction, etc.), the attenuation curve changes as a function of time when the differential fiber distribution function characterizing fiber movement changes continuously with time and the product fed is uniform in thickness and structure. If the nature of this function is known, it is possible to plot the attenuation curve for any moment by using the equations derived.

NEW DEVELOPMENTS IN ROVING PACKAGE WINDING. G. G. Fornes and J. H. Robinson (Inst. Textile Technol.). Textile Inds. 124: 125-129 (Sept. 1960). (3882)

The principles and mechanisms of both the roving frame variable pitch builder and the winding tension regulator developed by the Institute of Textile Technology are described in detail. Photos, diagrs, graphs, tables.

RECENT DEVELOPMENTS IN ROVING FRAME DESIGN. C. D. Brandt (Whitin Mach. Works). Textile Inds. 124: 129-132 (Sept. 1960). (3883)

The design features of the Whitin model P large package roving frame are described. Photos.

AN EXPERIMENT TO REDUCE IRREGULARITY IN DRAWING SLIVER. L. Narayana (Shree Meenakshi Mills Ltd). Textile Dig. 21: 31-35 (Jan.-Mar. 1960). (3884)

This paper deals with the results of the regularity of the sliver as reflected by the Uster irregularity percentage, when the draft in the middle zone is reduced to as low as 1.03, virtually making the frame a two-zone drafting system. The effect on sliver regularity of different weights on the second and third top rollers is also studied. Tables.

Spinning, winding, twisting B4

EFFECT OF TWIST ON PHYSICO-MECHANICAL PROPERTIES OF ACETATE YARN. V. A. Usenko and K. N. Murav'eva. Tekhnol. Tekstil. Prom. No. 1 (14): 32-39 (1960). In Russian. Through BCIRA 40: 2730 (1960). (3885)

The strength and breaking length of cellulose acetate filaments increase with increasing twist up to a maximum (critical twist) and then gradually decrease. The optimum elastic properties of these filaments are found at a minimum twist. The resistance to repeated bending decreases rapidly with increasing twist, the maximum resistance being exhibited by soft-spun (untwisted) filaments. The stability to repeated stretching increases only insignificantly with increasing twist. Shrinkage after wetting the filament occurs only in the case of very high twists and is very small as compared with that of viscose fibers. The abrasion resistance decreases with increasing twist and increases with increasing number of elementary fibers in the thread. On account of their valuable properties, high-count (not below 90), cellulose acetate yarns with not less than 2,000-2,500 elementary filaments and the lowest possible twist are recommended for use in woven and knitted fabrics.

PROBLEMS OF TWIST. PART 1. J. W. S. Hearle. Skinner's Silk & Rayon Record 34: 749-752 (Aug. 1960). (3886)

Changes in mechanical behavior of yarns with twist are discussed on the basis of load extension variations. Diagr, graphs, table.

INCREASING PRODUCTION OF RING SPINNING FRAMES. P. F. Grishin. Can. Textile Seminar 7: 132-151 (Sept. 1960). (3887)

How to increase production up to 50% by controlling yarn tension and traveler burn to keep ends down at a minimum is the subject of this paper. Photos, diagrs, graphs, tables, 9 refs.

IMPROVEMENT OF COTTON RINGFRAME EFFICIENCY. V. Copilu. Industria Textila 11, No. 5: 171-176 (1960). In Rumanian (English summary). Through BCIRA 40: 2629 (1960). (3888)

A theoretical and practical analysis of the factors involved--spindle speed, twist, coefficient of active machine time--is presented.

STARNES SPINNING SYSTEM. Textile Inds. 124: 175-176 (Sept. 1960). (3889)

Features of the prototype of the Starnes system which combines spinning and winding in a single operation and eliminates the use of ring and traveler are briefly described. Photos, diagr.

PROGRESS IN DRAFTING ROLLER WEIGHTING FOR COTTON RING SPINNING MACHINES. M. Welker. Deut. Textiltech. 10, No. 4: 172-173 (1960). In German. Through BCIRA 40: 2626 (1960). (3890)

The principles, construction, and setting of a new spring-pressure arm are described; it can be adjusted in a simple manner to the respective staple lengths without moving the holding rod and without readjusting the front roller. The results from spinning tests are reported.

SOME RECENT DEVELOPMENTS IN THE WINDING AND TWISTING OF MANMADE FILAMENT YARNS. G. M. Varley (Chemcell Fibres Ltd). Can. Textile Seminar 7: 168-174 (Sept. 1960). (3891)

The two basic methods of winding yarn onto packages which can be applied either as a means of takeup at the extrusion machine or for package formation at the twisting operation are described. On an uptwister, the drive roll, reciprocating guide and bobbin comprise a takeup machine. On the downtwister, the ring, traveler and spindle mechanism comprise a takeup machine. The features and operation of the Leesona precision wound packaging systems comprising the 959 tension controlled takeup and the 210 two-for-one twister coner are described as examples of new technological advances in filament yarn processing. Photos, diagrs.

Yarns B5

STUDY OF THE DEFORMATION RATE OF STRESSED YARN FOR THE PURPOSE OF INTENSIFYING TECHNOLOGICAL PROCESSES. PART 2. MECHANICAL AND PHYSICAL INTERPRETATION OF STRENGTH PROPERTIES OF YARN. M. D. Talysin. Khim. Volok. No. 4: 40-47 (1959). In Russian. Through BCIRA 40: 815 (1960). (3892)

Mechanical properties of various yarns were studied by determining the deformation rate under constant and variable stress. These conditions are of importance for comparative evaluation of the processing effects. The influence of other factors accompanying the technical processes (electrification, temperature, vibration, etc.) was not taken into account. The deformation mechanism is discussed theoretically and illustrated by diagrams. 25 refs.

COTTON-YARN FAULTS: WHAT CAUSES AND CURES THEM. N. H. Pomfret. Textile World 110: 48-49 (Sept. 1960). (3893)

Brief primer on causes and prevention of crackers, snarls, slubs, singlings, doublings, stringy or wiry yarn, and mill marks.

CZECHOSLOVAKIAN BULKING UNITS. Skinner's Silk & Rayon Record 34: 743-744 (Aug. 1960). (3894)

Features of the Tvasil false twist unit, the Evalon precision cross-winding unit, and the Anilon stuffer box unit are described. Photos.

ALLEGRO CONTRACTIBLE BOBBIN FOR STEAMING SYNTHETIC FIBERS. Industrie Allegro AG. SVF Fachorgan Textilveredlung 15, No. 5: 373-374 (1960). In German. Summary in BCIRA 40: 2632 (1960). (3895)

A removable support permits the collapsible shell of the Allegro bobbin to contract in proportion to yarn shrinkage during steaming. Photo.

FURTHER CONTRIBUTION TO THE PROBLEM OF FIBER ARRANGEMENT IN THE YARN CROSS-SECTION IN FIBER BLENDS. L. Rudolph. Z. ges. Textil-Ind. 62, No. 10: 405-408 (1960). In German. Through BCIRA 40: 2732 (1960). (3896)

Experiments on carded yarns from viscose rayon staple fibers with different staple lengths and fineness showed no preference of the distribution of short and fine fibers in the yarn core. This confirms previous findings of the author.

SOME ASPECTS OF THE MANUFACTURE OF SEWING THREADS. L. Cooke (English Sewing Cotton Co. Ltd). Textile Merc. 143: 239-243, 251 (Aug. 19, 1960). (3897)

The basic requirements of sewing thread and the manufacturing techniques necessary in achieving them are discussed. Photos, diagrs.

EFFECT OF REPEATED STRETCHING ON SOME MECHANICAL PROPERTIES OF SYNTHETIC CORD YARNS. M. P. Nosov. Khim. Volok. No. 4: 47-50 (1959). In Russian. Through BCIRA 40: 821 (1960). (3898)

It was found that the breaking load of synthetic cord yarns changes insignificantly during repeated stretching. A marked decrease in the breaking load occurs only where individual elementary fibers break. The breaking elongation and strength modulus change proportionally with repeated stretching of the yarn. The changes indicate reduced resistance of the yarn to stretching, decrease in the total elastic deformation at varying relaxation periods, and increase in the elastic component at short relaxation periods. Diagrams are given showing the behavior of Kapron and Terylene cord yarns during repeated stretching. See abstr. 1345/59.

FABRIC PRODUCTION C

AUTOMATION IN THE TEXTILE INDUSTRY, WITH PREPARATION AND WEAVING EXAMPLES. J. Schneider. Z. ges. Textil-Ind. 62, No. 10: 414-418; No. 11: 449-457 (1960). In German. Through BCIRA 40: 2653 (1960). (3899)

A survey is made of recent machine developments in the field of winding, warping, and weaving, with special reference to automatic devices and economic aspects.

Warping, slashing, yarn preparation C1

DIRECT AND SECTION WARPING OF COLORED STRIPES. J. Eichholzer. Textile Mfr. 86: 314-315 (Aug. 1960). (3900)

See abstr. 2734/60.

EFFECT OF GUIDING DEVICES ON THE TENSION OF A MOVING THREAD. E. D. Efremov. Tekhnol. Tekstil. Prom. No. 1 (14): 86-96 (1960). In Russian. Through BCIRA 40: 2651 (1960). (3901)

Equations are given for calculating the forces which act between the thread guide and the thread and have an effect on the thread tension.

SPEEDS POSSIBLE WITH DISC-LIKE THREAD TENSIONING DEVICES. V. V. Strzhalkovskaya and E. D. Efremov. Tekhnol. Tekstil. Prom. No. 1 (14): 105-110 (1960). In Russian. Through BCIRA 40: 2650 (1960). (3902)

It is shown that disc tensioners (especially spring-loaded) make it possible to increase the velocity of a thread with nonuniform diameter to a certain limit value (velocity limit of the tensioning device). Thread velocities exceeding this value lead to an increasing number of end-breakages. This can be avoided and the performance of the tensioners improved by reducing the mass of those parts of the tensioning device which are set in motion by the action of the thread.

TENSIONING DEVICES FOR THREADS MOVING AT HIGH SPEEDS. E. A. Onikov. Tekhnol. Tekstil. Prom. No. 1 (14): 97-104 (1960). In Russian. Through BCIRA 40: 2649 (1960). (3903)

Results obtained by means of an electrotensiometer developed for measuring tension variations in the thread as a function of time and thickness differences are reported, with special reference to various types of disc tensioners (spring-loaded, magnetic, weighted).

YARN GUIDE MECHANISMS DURING WINDING. A. F. Proshkov. Tekhnol. Tekstil. Prom. No. 1 (14): 137-146 (1960). In Russian. Through BCIRA 40: 2648 (1960). (3904)

Mechanisms for the continuous transport of yarn, consisting of two cylinders of which one or both is guiding the thread and of a cylinder and a cone, whereby either the cylinder or the cone may act as guide, are discussed.

YARN CLEARERS AND YARN CLEARING. PART 1. Textile Recorder 78: 49-51 (Aug. 1960). (3905)

The characteristics of various types of slit clearers (Whitaker fixed slit clearer; Sigel visual setting slit clearer; Arundel Coulthard adjustable slit clearer; Heaton, Leesona Micro-Set, and Leesona Slubtrap trap clearer; and Uster F6 and Book selective clearers) and comb clearers (MacColl and Kenicoll) clearers are reviewed. Photos, diagr.

HANDLING STARCH BY THE RAIL-CAR FULL. B. T. Morgan and E. King. Textile World 110: 60-64 (Sept. 1960). (3906)

A mechanized system of handling starch from boxcar to slasher size box at Jackson Mills is claimed to reduce labor time, boost efficiency, and reduce waste. Potential savings and advantages of the system are discussed. Photos.

Weaving C2

DAUTRICOURT CIRCULAR WEAVING MACHINE. Textile Recorder 78: 69-70, 77 (Aug. 1960). (3907)

See abstr. 3091/60.

ULTRATEX SUPER HIGH SPEED TAPE LOOMS. Texnovo SpA. Man-Made Textiles 37: 48 (Aug. 1960). (3908)

The Ultratex shuttleless loom is produced in two models: one for rigid tapes and ribbon and the other for elastic webs. The new loom has 16 weaving heads and forms the selvage on the side away from the weft carrier or rocker arm weft mechanism (i.e. the left hand side) by means of a knitting needle using the weft thread itself, or an additional selvage thread, or a combination of both whereby a non-run selvage is produced if this is required. Weft supply is taken direct from cones and fed by a rotary weft feed wheel to the rocker arm which constitutes the weft inserting mechanism. Other features are noted. Photos.

MAXBO SHUTTLELESS LOOM. H. A. Nagel (Edda Intern. Corp.). Can. Textile Seminar 7: 81-82 (Sept. 1960). (3909)

Some of the special features and advantages of the loom are discussed. Photo.

DRAPER SHUTTLELESS LOOM. J. C. Huff, Jr. (Draper Corp.). Can. Textile Seminar 7: 73-80 (Sept. 1960). (3910)

The principles of operation and features of the loom are explained. Photos.

WEAVING ON THE SULZER WEAVING MACHINE. M. Steiner (Sulzer Bros. Ltd). Can. Textile Seminar 7: 83-89 (Sept. 1960). (3911)

This assessment of the Sulzer loom includes a discussion of the weft insertion system, range of application, performance, weaving costs, and working conditions. Photos, diagrs, graphs, tables.

RECENT DEVELOPMENTS IN WEAVING. C. Sivaraman. Silk Rayon Inds. India 3: 17-21 (June 1960). (3912)

A review of recent weaving research and loom developments. Photos, 25 refs.

DEVICE FOR PLOTTING THE TRAJECTORY OF THE PICKER IN THE VERTICAL PLANE. D. V. Titov and A. S. Manuchin. Przeglad Wlok. 14, No. 1: 25-26 (1960). In Polish (translation from Russian). Through BCIRA 40: 2656 (1960). (3913)

Factors affecting the trajectory of the picker are studied, with special reference to a device developed by the Soviet Central Research Institute of the Cotton Industry, which registers the movement of the picker in the vertical plane.

EATON PHOTOELECTRIC WEFT DETECTOR. Shirley Developments Ltd. Textile Weekly 60 (2): 343 (Aug. 12, 1960). (3914)

Claimed to be suitable for any type of loom or yarn, the detector comprises a compact photoelectric unit combining in a single machined alloy head, an optical system, sensitive photo-transistor, and vibration-resistant light source. The detector operates on light reflected from a band of self-adhesive reflective tape on the base of the pirn, while the function of the device is to scan the pirn during weaving and to take suitable action to prevent the weft running out completely. Photo.

GAGES IN DRAPER LOOM MAINTENANCE. PART 7. FINDING AND KEEPING ADEQUATE PICKING POWER. Textile Inds. 124: 169, 172-173 (Sept. 1960). (3915)

The use of the pick timing gage is explained.

THEORETICAL BASIS FOR DETERMINING THE PERFORMANCE OF THE LAY SWORDS ON LOOMS. S. P. Vostroknutov. Tekhnol. Tekstil. Prom. No. 1 (14): 147-151 (1960). In Russian. Through BCIRA 40: 2657 (1960). (3916)

DEVICE WITH AN INDUCTION FEELER FOR MEASURING THE WARP TENSION DURING WEAVING. P. A. Kolesnikov and M. I. Grinbaum. Przeglad Wlok. 14, No. 1: 23-24 (1960). In Polish (translation from Russian). Through BCIRA 40: 2658 (1960). (3917)

The construction, performance, and advantages of the apparatus are described. It consists of a rectifier, control oscillator, amplifier, feeler, and electromagnetic oscillograph, all components but the feeler being accommodated in a box. The feeler is mounted on the loom.

BROKEN-THREAD PROTECTION FOR JACQUARD LOOMS. European Technical Digests 5: 79-80 (Aug. 1960). (3918)

Electro-mechanical interlock controlled by the thread selector and heddle position. English language summary of item from Industrie Textile, No. 875, 1959. Diagrs.

DOBBY PATTERNING CONTROL. Erich Trumpelt AG. Textile Weekly 60 (2): 292 (Aug. 5, 1960). (3919)

Totally-enclosed construction which prevents oil leakage besides ensuring that no fly or other dirt can be deposited on moving parts, is one of the principal features of the range of Trumpelt dobbies described. Photo.

LOOM-SHED EFFICIENCY. V. N. Kapur and A. N. Gulati. Indian Textile J. 70: 541-545, 549 (July 1960). (3920)

Loom-shed efficiency measurement is studied in relation to factors connected with men, material, and machines.

ULTIMO SELVAGE MOTION FOR SPLIT CLOTHS. Staubli Bros. & Co. Textile Weekly 60 (2): 288 (Aug. 5, 1960). (3921)

The Ultimo split-motion mechanism is normally supplied with a ratchet-wheel, which causes the doup thread to change to the other side of the stationary thread after each pick. By exchanging the ratchet-wheel, a weave can also be produced where the doup thread changes only once every second pick. Photo, diagr.

WEFT-INSERTING MECHANISMS. D. Bracke and O. Van Looken. Rev. Textilis 16, No. 2: 13-19; No. 3: 25-29; No. 4: 37-43; No. 5: 29-32 (1960). In Dutch. Through BCIRA 40: 2654 (1960). (3922)

This is a technical and scientific study offering to the weaving technician a basis for determining and calculating the movements, speed, etc., of the loom to obtain a certain output.

JACQUARD WEAVING. D. De Jonghe, V. Galens, and M. Tavernier. Rev. Textilis 16, No. 5: 13-18 (1960). In Dutch. Through BCIRA 40: 2655 (1960). (3923)

The theory and practice of jacquard weaving, designing, and structure of jacquard fabrics are discussed.

REPORT ON FRINGE SELVAGES. Textile Inds. 124: 147, 149 (Sept. 1960). (3924)

A survey on possible weaving, finishing, or cutting difficulties associated with fringe selvages from shuttleless looms indicates that there are no great problems.

EFFECT OF STRETCHING ON A SIZING MACHINE ON THE NUMBER OF WARP THREAD BREAKAGES DURING WEAVING. L. Visscher. Tex 19, No. 3: 124-130 (1960). In Dutch. Through BCIRA 40: 2652 (1960). (3925)

The effect of excessively stretching the yarn on the sizing machine on the number of end breaks during weaving was investigated to find that, within an elongation of 1-2%, the end-breakage rate on the loom is not significantly increased.

Knitting C3

ENGINEERING NEW KNITTED FABRICS FROM MANMADE FIBERS. J. H. Blore (Fair-Tex Mills). Can. Textile Seminar 7: 130-131 (Sept. 1960). (3926)

WARP KNITTING INDUSTRY. R. Peel (Fidelity Mach. Co.). Can. Textile Seminar 7: 101-106 (Sept. 1960). (3927)

The past, present, and future of the warp knitting industry are discussed.

HOW VERSATILE IS THE KNITTING MACHINE? W. E. Shinn. Knitter 24: 35-38 (Sept. 1960). (3928)

Examples are given of new fabric variations that can be produced on fairly simple knitting machines. Photos.

FUNDAMENTALS OF WARP KNIT ENGINEERING. PART 3. A. Reisfeld. Knitted Outerwear Times 29: 35, 37, 39 (Sept. 12, 1960). (3929)

Part 3 considers filament yarn variables of filament denier, cross-section, and number of filaments. It defines some basic concepts of yarn mechanics like tenacity, strain, stress, moduli of stretch, bending, rigidity, etc. Diagrs, 9 refs.

FUNDAMENTALS OF WARP KNIT ENGINEERING. PART 4. A. Reisfeld. Knitted Outerwear Times 29: 15-21 (Sept. 19, 1960). (3930)

Torsional rigidity and modulus of rigidity are considered. 2 refs.

MODEL LIPANIT--NEW SINGLE PURPOSE DOUBLE CYLINDER UNIT. J. B. Lancashire. Knitted Outerwear Times 29: 31, 33 (Sept. 12, 1960). (3931)

The Model Lipanit (Mayer and Cie, Germany) is a double cylinder 26 feeder garment length machine.

ILGO SUPER MULTIFEEDER DOUBLE JERSEY MACHINE. Mayer & Cie. Hosiery Trade J. 67: 104, 125 (Aug. 1960). (3932)

In addition to ordinary interlock, Type ILGO can produce tuck interlock fabrics, including those that incorporate panel tuck effects; double piqué, eightlock, and relief fabrics; and patterned fabrics featuring stripes, spots, squares, and check designs in color. Its features are noted. Photos.

BENTLEY-WILDT MODEL DW DOUBLE CYLINDER HALF-HOSIERY MACHINE. I. R. Thornton. Hosiery Trade J. 67: 74-77 (Aug. 1960). (3933)

The Model DW combines wrap stripe embroidery with jacquard float patterning, and permits the production of a wide range of colorful designs. Its patterning scope and mechanisms are described in detail. Photos, diagrs.

TRENDS IN THE DESIGN AND CONSTRUCTION OF MEN'S HOSIERY. W. E. Shinn (School of Textiles, N. C. State Coll.). Can. Textile Seminar 7: 63-68 (Sept. 1960). (3934)

Developments discussed include: coarse gages, stretch hosiery, crew socks, ingrain knitting, toe closing methods, knee-length hosiery, plating high-bulk over high-stretch yarns, and mesh construction. Photos.

GRAU METHOD OF KNITTING PILE FABRICS. H. W. H. Grau. Hosiery Trade J. 67: 89-91 (Aug. 1960). (3935)

The feeding of fibrous web directly to the needles of a raschel warp-knitting machine with one needle bed and interknitting it with the threads of one or more ordinary warp sheets is the basis of a new method of making pile fabrics. If desired, the fibrous web may be supplied from a beam, but it is generally preferred to prepare the web on the knitting machine by incorporating a carding engine, gill box, or other spinning equipment, together with a conveying unit, the function of this equipment being to level up the web and ensure a uniform supply. Photos.

LACE ON MODERN RASCHEL MACHINES. PART 6. GROUND NETS. B. Wheatley (Nottingham & District Tech. Coll.). Man-Made Textiles 37: 36-41 (Aug. 1960). (3936)

The formation of three main categories of ground nets is detailed: (1) use of a full-set threading in conjunction with a yarn too thin for the gage of the machine for transparent fabrics; (2) knitting with a full-set threaded bar in such a way that no side connections exist between adjacent wales on predetermined courses; (3) using two-part-set threaded bars, both knitting in such a way that no side connections exist between adjacent wales on predetermined courses. Diagrs.

REDUCING MISSED PICKS ON BANNER SCP AND SCOP MACHINES. E. H. McGrew. Textile Inds. 124: 181, 184-185 (Sept. 1960). (3937)

Missed picks due to faulty operation of widening picks on Banner SCP and SCOP knitting machines can be greatly reduced by a simple alteration made on the widening pick bracket. This alteration consists of positioning the widening pick securing screw in a different place on the bracket. Diagrs.

BENTLEY TWIN-FEED WRAP-THREAD MACHINE. J. B. Lancashire. Knitter 24: 39-43 (Sept. 1960). (3938)

This unit not only increases production rates but gives more scope for the use of color. Its features and use are described.

EUROPEAN KNITTING DIARY. R. Innes. Hosiery Trade J. 67: 100-102 (Aug. 1960). (3939)

Among the developments discussed are: the Durkopp Combi 755 conveyor installation for knitwear making-up; Waga sinker-wheel machine with spur gear type inlay attachment for knitting elastic fabrics; and Lebocey Posifid rubber yarn feed device. Photos, diagrs.

UNIVERSAL'S SUPRAMAT SFS V-BED FLAT POWER MACHINE. Universal Maschinenfabrik. Knitted Outerwear Times 29: 41, 42, 45 (Sept. 12, 1960). (3940)

Features are described and illustrated.

Fabrics C4

ACRILAN: LUXURY CARPET FIBER. Man-Made Textiles 37: 42-45 (Aug. 1960). (3941)

The aesthetic and performance characteristics of Acrilan carpets are compared with those of carpets made from wool, viscose, acetate, and nylon. Graphs, tables.

BRANDON CARPET MAKING PROCESS. L. Brandon. Man-Made Textiles 37: 59, 61 (Aug. 1960). (3942)

By means of the Brandon process it is claimed that high quality carpeting, with dense pile, in plain, mottled or even charted patterns can be made at very high speeds. The process consists of 3 basic stages. The first is winding the yarn intended for use as pile on rectangular section steel rods. The second stage is assembling the yarn-wrapped rods in position on a jute backing which has been prelatexed. The yarn is combined into the final product with the rods still in position, and a special cutting wheel is taken across the top of the rod, slitting across the yarn and allowing the steel rod to be removed. This leaves a length of yarn fastened to the backing, resembling an inverted hairpin in which the two ends stand up as conventional tufts in any carpet. With the third stage, it is possible to obtain charted patterns, using any one set of printing rollers and preprinting the yarn. The rods are then placed on the conveyor belt in sequence and the pattern of the carpet is assembled in the machine's magazine.

SOME COMMON FAULTS IN CARPET MANUFACTURING. T. R. Bridgford, D. R. Mills, and D. R. Smith. Textile Mfr. 86: 310-313 (Aug. 1960). (3943)

Sources of and methods of eliminating various defects in Wilton, gripper Axminster, and spool Axminster carpets are discussed. Photos, diagrs.

NEEDLE PUNCHED FABRICS. D. C. Nicely (Chemstrand Corp.). Can. Textile J. 77: 46-47 (Sept. 2, 1960). (3944)

Production methods, fabric properties, and cost factors which make needle punched fabrics competitive with other nondisposable and durable nonwovens are briefly discussed.

CARPET FLAMMABILITY. Consumer Repts. 25: 538-540 (Oct. 1960). (3945)

Flammability data are presented for 33 representative carpets using Acrilan, Orlon, and Verel fibers.

MEASURING FOR DYED YARN STOCK CONTROL IN CARPET MANUFACTURE. Textile Merc. 143: 210-212, 220 (Aug. 12, 1960). (3946)

The advantages of the tuft-spotting method for assessing the amounts of yarn needed for a pattern in order to avoid large, redundant yarn stocks are examined.

NEW TENTAGE MATERIAL. G. T. Holmes (Dept. Nat. Defence, Ottawa). Can. Textile J. 77: 43-44 (Sept. 2, 1960). (3947)

Dalmor Protecto-Tarp is a vinyl impregnated tentage fabric woven from a plied yarn of nylon and cotton. Its properties and uses are described.

WEAVE OF LOUDSPEAKER FABRICS. I. Varga. Magyar Textiltech. 11, No. 1: 25-26 (1959). Through BCIRA 40: 759 (1960). (3948)

The permeability to air of a number of fabrics was examined as a function of fabric compactness and design. A new, more porous, fabric for loudspeaker covering was designed; it prevents resonance and can be woven more economically than the usual linen-weave material.

DIMENSIONAL CHANGES IN A SYSTEM OF JOINED CLOTH PIECES. THEORETICAL DISCUSSION. J. Lindberg. Medd. TEFO No. 3: 1-11 (1960). In Swedish. Through BCIRA 40: 2740 (1960). (3949)

The author discusses dimensional changes that may occur in practice in a 2-component fabric system as a result of external mechanical stresses, setting operations, and tension relaxation or production of internal stresses by swelling. Equations are given for determining the individual forces and relationships are derived between the initial difference in the dimensions of the two fabrics, the dimensional changes taking place after the fabrics have been joined together, and certain mechanical properties of the fabrics.

PERMEABILITY OF FABRICS TO ULTRAVIOLET RAYS AND PRINCIPLES OF ITS STANDARDIZATION. W. P. Cwielodub. Przeglad Wlok. 14, No. 1: 32-37 (1960). In Polish. Through BCIRA 40: 2742 (1960). (3950)

The effects of fabric permeability to ultraviolet rays on the human body are discussed, with special reference to the dependence of the hygienic fabric properties upon the degree of permeability to rays that have the greatest biological activity, and to the principles of standardizing the ultraviolet permeability of fabrics according to the source of radiation, nature of the spectrum, and wavelength of the ultraviolet rays.

SILICONE DIELECTRIC MATERIALS. K. D. Rowlands (Midland Silicones Ltd). Fibres and Plastics 21: 230-234 (Aug. 1960). (3951)

In this article the author reviews the electrical properties and applications of silicone resins, elastomers, fluids, and compounds and their combination with mica and asbestos and glass fiber as dielectric insulations. Photos, tables, 11 refs.

WORK CLOTHING DESIGN. Ciba Rev. 12, No. 138: 2-32 (June 1960). (3952)

Occupational and festive costumes in pre-industrial times, by H. Schramm, p. 2-13; Journeymen's dress, by H. Schramm, p. 14-17; From clothes to protect clothes--to safety clothing, by R. Schramm, p. 18-31. Photos, diagrs, 37 refs.

INTRODUCTION TO REINFORCED PLASTICS. PART 1. I. L. Hepner. Fibres and Plastics 21: 223-227, 229 (Aug. 1960). (3953)

The advantages and limitations of fiber reinforced laminates, as compared with existing materials, are pointed out. The preparation and characteristics of polyester, epoxy, and furan resins, properties of fibers used, and relationship of fabric or yarn structure to laminate properties are discussed. Photos, tables.

LAMINATED PLASTICS FOR ELECTRICAL INSULATION. Micanite & Insulators Co. Ltd. Fibres and Plastics 21: 239-240 (Aug. 1960). (3954)

The properties, manufacture, and applications of Paxolin laminates (based on different fibers and resins according to end-use properties desired) are briefly described.

PHENOLIC LAMINATES AS INSULANTS. W. S. Farrall (Tufnol Ltd). Fibres and Plastics 21: 235, 237, 244 (Aug. 1960). (3955)

The applications of phenolic laminates based on cotton, glass fibers, asbestos, and wood for electrical, thermal, and acoustical insulation are surveyed.

STRUCTURE OF PAPER. PART 1. STATISTICAL GEOMETRY OF AN IDEAL TWO DIMENSIONAL FIBER NETWORK. O. Kallmes and H. Corte (Wiggins Teape Research Organization). Tappi 43: 737-752 (Sept. 1960). (3956)

SYNTHETIC FIBRILLATING FIBERS: NEW MATERIALS FOR THE MANUFACTURE AND BONDING OF LONG-FIBERED SYNTHETIC FIBER PAPER. H. F. Arledter (Mead Corp.). Tappi 43: 208A-213A (Sept. 1960). (3957)

REINFORCED PLASTICS IN ELECTRICAL INSULATION. G. T. Mayson (Aeroplastics Ltd). Fibres and Plastics 21: 243-244 (Aug. 1960). (3958)

The disadvantages of cellulose fibers for electrical insulation and their replacement by glass fibers are discussed.

CARBOXY-MODIFIED LATICES. L. L. Shailer (B. F. Goodrich Chem. Co.). Am. Textile Reptr. 74: 19-21 (Aug. 18, 1960). (3959)

The characteristics and uses of carboxy-modified nitrile, acrylic, and styrene butadiene latices are described. Tables.

WOES OF WASH-AND-WEAR. Textile Inds. 124: 97-99 (Sept. 1960). (3960)

Factors responsible for consumer dissatisfaction with wash and wear cottons are pointed out.

FIBERS AND PLASTICS IN INSULATION. Fibres and Plastics 21: 241-243 (Aug. 1960). (3961)

Brief survey of the various forms and types of fibers and plastics used for thermal, acoustical, low temperature, electrical, and marine insulation purposes.

PSYCHOLOGY OF TEXTILES. E. Dichter (Inst. for Motivational Research). Can. Textile J. 77: 53-56, 59 (Aug. 19, 1960). (3962)

The basic psychological function of all textiles and the specific appeals of cotton, wool, silk, linen, and synthetic fibers to the consumer are examined.

FAULTS IN FINISHED WOVEN FABRICS. N. Jackson (Courtaulds Ltd). Textile Merc. 143: 247, 249 (Aug. 19, 1960). (3963)

Typical defects related to fabric structure or to yarn processing are briefly outlined.

EFFECT OF DEFORMATION WHEN STRETCHING TWISTED VISCOSE YARN DURING PRODUCTION AND PROCESSING ON THE FORMATION OF CREPE EFFECTS. M. P. Arkhangelskaya and W. M. Tielnova. Przeglad Wlok. 14, No. 1: 16-18 (1960). In Polish (translation from Russian). Through BCIRA 40: 2728 (1960). (3964)

Deformations (twisting, stretching, and bending) produced in highly twisted viscose yarn during its production and processing result in defects in the finished fabric in the form of irregular crepe effects. The causes are investigated.

FELTING AND SHRINKAGE OF WOOL. K. R. Makinson. Textile J. Australia 35: 534-537 (July 20, 1960). (3965)

A summary of the present state of knowledge of the felting and shrinkage of wool. Laundering instructions are given for the avoidance of wool felting.

INFLUENCE OF COLORANT SYSTEMS ON THERMAL PROTECTION. PART 3. STUDIES ON CONVECTIVE HEAT FLOW IN FABRICS EXPOSED TO HIGH INTENSITY. PART 4. STUDIES ON THE ROLE OF DIRECT TRANSMISSION. PART 5. FURTHER STUDIES ON THE INFLUENCE OF SECONDARY LAYERS. A. O. Ramsley. U. S. Quartermaster Research & Eng. Center, Natick, Mass. Feb. 1959. 52 p. Textile series report no. 105. (3966)

The three papers reported describe laboratory studies which considered the influence of colorant systems on various methods of heat flow through fabric assemblies exposed to intense radiant energy of short duration. Observations and conclusions are essentially empirical rather than theoretical. Part 3 describes a procedure for analyzing the shape of time-temperature curves in terms of methods of heat flow. It is shown that the area under such curves can be greatly reduced by inclusion of an impermeable layer within the assembly. In Part 4 it is shown that the direct transmission process can be a significant method of heat flow. To minimize uncertainty due to side reactions occurring in under-layers during exposure, a change in technique was employed as described in Part 5.

FINISHING D

CURRENT TRENDS IN TEXTILE FINISHING. C. S. Whewell (Univ. Leeds). Can. Textile Seminar 7: 111-120 (Sept. 1960). (3967)

Trends in scouring, bleaching, wash and wear finishes and fabrics, and mechanical finishing are discussed. Graphs, tables, 15 refs.

EFFECT OF SONIC AND ULTRASONIC VIBRATIONS ON SOME FABRIC FINISHING PROCESSES. V. F. Androsov and A. A. Kharkharov. Tekhnol. Tekstil. Prom. No. 1 (14): 129-132 (1960). In Russian. Through BCIRA 40: 2676 (1960). (3968)

The application of sonic vibrations during scouring and subsequent hot washing leads to an increase in the capillarity of cotton fabrics. The dyeing intensity on a cotton fabric, dyed by the action of sonic vibrations is 2.14 times greater than in their absence. This indicates that the vibrations promote the dispersion of the direct dye aggregates in the solution and increase the diffusion rate of the dye in the fiber. The dyeing time is thereby reduced to one-half or one-third of the usual.

DEVELOPMENT TRENDS AND MODERN WORKING METHODS IN FINISHING MANMADE FIBERS. H. U. Schmidlin. SVF Fachorgan Textilveredlung 15, No. 5: 330-353 (1960). In German. Through BCIRA 40: 2684 (1960). (3969)

In this review, the author discusses the development of manmade fibers, fibers with profiled cross-section, new fibers, use of manmade fibers, modern finishing methods, and suitability of various dye classes and methods for continuous dyeing. 42 refs.

HISTORY OF WOOL DYEING AND FINISHING IN THE WEST OF ENGLAND. K. G. Ponting. Dyer 124: 301-306 (Aug. 26, 1960). (3970)

POSSIBILITIES OF APPLYING THE THERMOTEX PROCESS FOR DIVERSE PROCEDURES IN TEXTILE CHEMISTRY. I. Rusznak. Magyar Textiltech. 11, No. 2: 61-63 (1959). Through BCIRA 40: 771 (1960). (3971)

When a fabric is suddenly immersed in a hot treatment bath, the bath cools at the surface causing local precipitations, etc. In the Thermotex process the fabric is heated before immersion. Advantages in sizing, desizing, and continuous (direct) dyeing are described.

Chemical processes D1

FLAMEPROOF FINISHING OF CELLULOSIC TEXTILES. A. Médico. Ciba Rev. 12, No. 138: 42 (June 1960). (3972)

Cellulosic fiber fabrics treated with Pyrovatex Ground and Base show a high degree of flame-resistance without afterglow. The finish is fast to rainwater and drycleaning and renders the material rotproof.

CONSTITUTION AND PROPERTIES OF SURFACE-ACTIVE SUBSTANCES. PART 2. SORPTION OF ANIONIC SURFACE-ACTIVE SUBSTANCES ON TEXTILE FIBERS. H. Kölbel and K. Hörig. Angew. Chem. 71: 691-697 (1959). Through BCIRA 40: 1926 (1960). (3973)

BLEACHING, DYEING, FINISHING. E. Sewell (Wabasso Cotton Co. Ltd). Can. Textile Seminar 7: 179-181 (Sept. 1960). (3974)

Preparatory treatments for cotton piece goods (singeing, desizing, scouring, bleaching, and mercerizing) as they affect the dyed and finished product are discussed.

TURBOFIX POLYMERIZATION MACHINE. Nottaris & Wagner. SVF Fachorgan Textilveredlung 15, No. 5: 375-378 (1960). In German. Through BCIRA 40: 2693 (1960). (3975)

The machine described is constructed for polymerizing and condensing resin finishes at a temperature range of up to 200° C. Combined Turbofix types for drying and polymerization and additional devices (compensator device enabling fully continuous operation of Turbofix machines, and a 3-color registration device) are available.

PREPARATION AND USE OF PERACETIC ACID IN BLEACHING. G. Rösch. Deut. Textiltech. 10, No. 4: 191-195 (1960). In German. Through BCIRA 40: 2669 (1960). (3976)

Possibilities of preparing peracetic acid in the bleaching liquor (by using perhydrol and acetic anhydride 1:3 with addition of dilute solutions of sodium hydroxide) are reviewed, and its bleaching action on cellulosic and manmade fibers is described. It was found that peracetic acid can be applied according to the principle of the pad-storing process at room temperature. The treated textiles show after 4-6 hr a satisfactory whiteness, and the cotton fabrics are free from husks. The process has great economic advantages as compared with the continuous and semi-continuous pad-steam methods.

THEORY AND PRACTICE OF SODIUM CHLORITE BLEACHING. J. K. Skelly (Belfast Coll. Technol.). J. Soc. Dyers Colourists 76: 469-479 (Aug. 1960). (3977)

The decomposition of sodium chlorite during the bleaching of flax has been studied at different pH values and various temperatures. Bleaching with sodium chlorite should be accompanied by maximum formation of sodium chloride and minimum formation of sodium chlorate and chlorine dioxide. The oxidizing power of the bleaching agent is discussed. While there is a good margin of safety with sodium chlorite under normal bleaching conditions, extreme conditions must be avoided, in order to prevent chemical damage. The effect of sodium chlorite on the impurities present in cotton and flax is discussed. The use of hot, weakly acid oxidizing solutions permits shortened bleaching processes. The main problems in practical sodium chlorite bleaching are (1) choice of a suitable method of activation of the bleaching agent, (2) selection of corrosion-resistant materials for construction of bleaching plant, and (3) design of the equipment to be used. Graphs, tables, 54 refs.

SUITABILITY OF UVITEX BRANDS FOR THE VARIOUS TYPES OF FIBERS. Ciba Ltd. Ciba Rev. 12, No. 138: 43 (June 1960). (3978)

Table intended as a synoptic guide indicating the suitability of Uvitex fluorescent agents for various textile substrates and certain special applications.

HOW TO KEEP NYLON WHITE. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Sept. 1960. 2 p. Bull. N-132 (replaces Bull. N-82). Free. (3979)

REPLACING THPC IN THE APO-THPC FLAME-RESISTANT FINISH FOR TEXTILES. T. D. Miles, F. A. Hoffman, and A. Merola (Quartermaster Research & Eng. Command). Am. Dyestuff Reptr. 49: 596-599 (Aug. 22, 1960). (3980)

Compounds other than THPC (tetrakis hydroxymethyl phosphonium chloride) can be combined with APO (tris-1-aziridinyl phosphine oxide) as a durable flame retardant for cotton. One of the properties of such compounds is their ability to catalyze the polymerization of APO. An infrared method for screening candidate catalysts is described. Using one of these catalysts, diammonium phosphate, a new durable flame retardant for cotton textiles is described. This combination has advantage over existing APO finishes such as a reduction in cost of materials, ease of handling in cost of materials, ease of handling in a finishing plant (since no offensive fumes are given off), and greater bath stability. Graphs, tables, 10 refs.

WATERPROOFING OF TEXTILES WITH SILICONES. A. Gancberg. Rev. Textilis 16, No. 5: 21-26 (1960). In French. Through BCIRA 40: 2695 (1960). (3981)

Publications and patent literature referring to the advantages of waterproofing with silicones, the main procedures, the silicones used, the mechanism and permanency of the waterproofing effect, and recent developments are reviewed. 22 refs.

WATER-IMPERMEABLE COATING OF POLYAMIDE FIBER FABRICS. R. Aenishänslin. Ciba Rev. 12, No. 138: 40-41 (June 1960). (3982)

An acrylate coating containing paraffin wax and alkylated, water-insoluble aminoplasts results in waterproof nylon materials of very low weight capable of withstanding a water pressure of over 150 cm water column and showing a spray-test water absorption of only some 5%. Photos.

FELTING AND SHRINKAGE OF WOOL DURING WASHING. B. C. M. Dorset. Textile Mfr. 86: 322-326 (Aug. 1960). (3983)

Progress in the shrinkproofing of wool by the application of resins or polymers to wool or by the modification of the washing liquor with electrolytes to reduce fiber resiliency are discussed from the viewpoint of factors affecting wool felting. Appropriate literature references are cited. Graphs, tables.

PROGRESS IN ANTISTATICS FOR TEXTILES. Fibres and Plastics 21: 245-246 (Aug. 1960). (3984)

The characteristics of an ideal antistatic agent are outlined. 2 refs.

DESIZING WITH SODIUM BROMITE. R. Freytag. Teintex 25, No. 5: 323-337 (1960). In French. Through BCIRA 40: 2668 (1960). (3985)

It is shown that sodium bromite in alkaline medium can be used for removing starch products from sized cotton fabrics. The main advantages of this process are that it can be carried out in the cold, that the fabric padded with bromite can be introduced into the scouring bath without intermediate treatment, and that only 1 g of active bromine is required per kg fabric to be desized. It is proposed to continue the study by trying to include the bromite-desizing operation in the continuous bleaching process with hydrogen peroxide or sodium chlorite.

REAPPLICATION OF FINISH TO CHEMSTRAND'S ACRYLIC CARPET FIBER AFTER STOCK DYEING. Chemstrand Corp., Decatur, Ala. Sept. 1960. 2 p. Bull. AC-2. Free. (3986)

Stock dyeing removes the original antistatic lubricant finish and to assure smooth processing during subsequent operations a protective finish must be reapplied.

ASTON 123 ANTISTATIC FINISH. M. B. Schlesinger (Onyx Chem. Co.). Am. Textile Reptr. 74: 61, 77-78 (Aug. 18, 1960). (3987)

In this discussion of the performance characteristics of Aston 123, the fundamentals of application and the properties imparted to the treated fabric are summarized. Tables.

NEW EPOXIDES FOR PLASTICS AND COATINGS. G. A. Trigaux. Modern Plastics 38: 147-153, 226 (Sept. 1960). (3988)

Four cycloaliphatic diepoxides--dicyclopentadiene dioxide, vinyl cyclohexene dioxide, dipentene dioxide, and a bis(methylcyclohexyl dioxide) compound--are important new additions to the epoxy family. They impart the following qualities to resins prepared from them: (1) better sunlight resistance; (2) higher temperature resistance; (3) B-stage stability; (4) lower initial viscosity; (5) good electrical properties; and (6) faster cross-linking or neutralization of carboxyl groups. These resins offer advantages for applications in plastics and coatings where the requirements can not be met by conventional epoxies. Tables, 3 refs.

HYDROLYSIS OF THERMOSETTING SYNTHETIC RESINS. A. Schürch. Ciba Rev. 12, No. 138: 38-39 (June 1960). (3989)

Factors responsible for the liability of a resin to hydrolysis and their significance to the finisher are discussed.

PLASTICS AND THEIR SIGNIFICANCE IN COATING OF SYNTHETIC FIBER FABRICS. F. Kassack. Kunststoffe 49: 425-430 (1959). Through BCIRA 40: 542 (1960). (3990)

Coating with polyvinylchloride, polyurethane, substituted polybutadiene, and polyethylene is discussed.

TABLE OF TEXTILE ASSISTANTS. St. Jost. Textil-Rundschau 15, No. 5: 248-255 (1960). In German. Through BCIRA 40: 2674 (1960). (3991)

The 5th series of this kind contains an alphabetical list of textile assistants (sizing, desizing, lubricating, wetting, washing, bleaching, optical brightening, leveling, and dye-fixing agents) marketed in 1959 and described in the American Dyestuff Reporter, Dyer, and the German Dyer's Calendar or in communications of the producers. For previous list see abstr. 542/60.

RESINS FOR WASH-WEAR FINISHES. H. C. Borghetty (Gen. Aniline & Film Corp.). Textile Recorder 78: 56-57, 59 (Aug. 1960). (3992)

The use of resins for imparting crease resistance and wash-wear properties to cotton and rayon, for shrinkproofing wool, for stabilizing fabrics by backfilling, and for bonding nonwoven fabrics is reviewed.

COTTON FABRIC WITH WET WRINKLE RECOVERY PRODUCED WITH FORMALDEHYDE WITHOUT EXCESSIVE STRENGTH LOSS. W. A. Reeves, R. M. Perkins, and L. H. Chance (So. Reg. Research Lab.). Am. Dyestuff Reptr. 49: 639-644 (Sept. 5, 1960). (3993)

The crosslinking of cotton fabric with formaldehyde while in a water swollen state was studied with the object of producing by a practical method a fabric having good wet wrinkle recovery without excessive degradation of fabric strength. This was accomplished in a pilot plant by padding the fabric through an aqueous solution of formaldehyde and hydrochloric acid and allowing to react in the wet state at room temperature by (1) remaining on the roll, (2) plaiting into a box (referred to as a J box process). After the required length of time (5 to 20 min) the fabrics were given an alkaline process wash, and dried. Bleached mercerized fabric was found to be more suitable than bleached fabric because a given degree of wet wrinkle recovery was acquired at a faster rate and a lower level of combined formaldehyde. Also the final tear strength, and breaking strength, which were much greater with the mercerized fabric, were well within a practical range. Graphs, tables, 16 refs.

EFFECT OF FABRIC STRUCTURE ON PROPERTIES OF WRINKLE-RESISTANT COTTONS. R. L. Arceneaux, J. D. Reid, and E. F. Schultz, Jr. (So. Reg. Research Lab.). Textile Inds. 124: 138-146 (Sept. 1960). (3994)

Twenty-three cotton fabrics varying in one or more structural parameters were treated with a wrinkle-resistance agent, dimethylol ethyleneurea (DMEU), and also with the agent in a formulated treatment. The effects of the structural variables on crease recovery angle, tearing strength, breaking strength, and resin distribution were studied. The treatments tended to narrow the spread of crease recovery angle found in the untreated fabrics, bringing the crease recovery angle of each fabric closer to that typical of the treatment. The use of fancy rather than plain weaves caused an improvement in tearing strength properties. The use of coarser yarns also improved tearing strength properties. Distribution of resin content between warp and filling yarns was affected by variations in yarn twist multiplier. Breaking strengths of the various fabrics were not greatly affected by the structural variations in the fabrics. Diagrs, graph, tables, 8 refs.

Dyeing and printing D2

REDOX TITRATION CURVES OF PERNITHRENE VAT DYES AND THEIR SPECIFIC IMPORTANCE, WITH REFERENCE TO THE DYEING PROPERTIES OF THIS DYE GROUP. J. Pelle. Tex 18, No. 11: 1377-1388; No. 12: 1520-1528 (1959). In Dutch. Through BCIRA 40: 768 (1960). (3995)

Relationships are established between the course of the redox titration curves of vat dyes, especially of Pernithrene dyes, and their dyeing properties. After introductory definitions of the terms (redox titration curve and degree of stability of the leuco compound), the author discusses the effect of the degree of aggregation or particle size of the leuco compound of the dye on the course of the redox titration curve, pointing out the possibilities of influencing the degree of aggregation. The tendency of the individual dyes to form aggregates is shown to be related to the leveling, absorption, stripping, and combining ability. A brief description is also given of the method for determining the redox titration curve.

REACTIVE DYES. H. H. Sumner and T. Vickerstaff (Imp. Chem. Inds. Ltd). Can. Textile Seminar 7: 48-57 (Sept. 1960). (3996)

The present theory of reactive dyes is discussed in relationship to the behavior of the dyes in practical dyeing. Graphs, tables, 5 refs.

EFFECT OF ENVIRONMENT AND SUBSTITUENTS ON THE PHOTOCHEMICAL ACTIVITY OF ANTHRAQUINONOID VAT DYES AND THE ROLE OF N-π^* TRANSITIONS. N. K. Bridge (Brit. Rayon Research Assoc.). J. Soc. Dyers Colourists 76: 484-489 (Aug. 1960). (3997)

The well-established correlations between dye fading and the phototendering caused by vat dyes on the one hand and dye affinity, aggregation, radical stability, electromeric effects, etc., on the other, are reviewed. Recent work, including flash spectroscopy, photolysis of model systems, studies of fluorescence and absorption spectroscopy, and studies indicating the existence of both singlet and triplet n-π^* transitions, is discussed, and this leads to the suggestion that n-π^* transitions are of fundamental importance. Evidence is collected to substantiate this. Factors which may affect the transition, especially hydrogen bonds involving the n-electrons and electromeric effects, are considered, as well as processes influencing the singlet-triplet ratio. It is shown, in terms of the relative amounts of singlet and triplet formed, how the observed difference between the efficient cyclic process of photosensitizers can be explained. Finally, these arguments are applied to a few well-known regularities of commercial dyes. 54 refs.

NEW DEVELOPMENTS IN REACTIVE DYES. PART 2. A. J. Hall. Textile Recorder 78: 58-59 (Aug. 1960). (3998)

The author deals with further types of reactive dyes comprising the halogenated pyrimidine reactive dyes, chlorosulfonamide dyes, and the new reactive dyes introduced in Germany.

PHTHALOGENES WITHIN THE PHTHALOCYANINE GROUP. J. Eibl. Teinture et Apprets No. 56: 6-24 (Feb. 1960). In French. Through BCIRA 40: 2675 (1960). (3999)

Phthalocyanines and derivatives and the constitution, properties and uses of phthalogene dyes (non-metal monomeric amino-imino-isoindolenines and heavy-metal complexes of polyisoindolenines) are reviewed. 32 refs.

DYES FOR UNIFORM AND FACING CLOTHS. H. Abel. Ciba Rev. 12, No. 138: 34-35 (June 1960). (4000)

Minimum ratings for the principal fastness properties of uniform cloths stipulated by a European government are cited by way of illustration, and recommended dyes for principal uniform shades are listed.

PIGMENT PRINTING ON THE BASIS OF POLYVINYL ACETATE EMULSIONS. G. I. Shilova. Tekhnol. Tekstil. Prom. No. 1 (14): 133-136 (1960). In Russian. Through BCIRA 40: 2692 (1960). (4001)

The method described is based on the use of polyvinyl acetate emulsion with addition of plasticizers (e.g. dibutylphthalate). The compositions given are recommended for cotton and silk fabrics. The prints are fast to washing with soap at the boil and to dry and wet rubbing.

OUT OF WASTE COMES PROFIT. L. Kemberling (Ludell Mfg. (Canada) Ltd). Can. Textile Seminar 7: 160-163 (Sept. 1960). (4002)

Developments in waste heat recovery systems for the dyehouse are discussed. Diagrs.

DYEING ACRYLICS IN BLENDS. A. Aldridge and P. V. Jordan (Ind. Dyestuffs Ltd). Man-Made Textiles 37: 53-54 (Aug. 1960). (4003)

Methods for dyeing unions of wool and cellulose fibers with straight acrylics, e.g. Orlon 42 and Courtelle, and with copolymer acrylics, e.g. Acrilan, are briefly reviewed.

NEW PROCEDURES FOR DYEING ARNEL AND KODEL. Gen. Aniline & Film Corp. Am. Textile Reptr. 74: 67-68 (Aug. 18, 1960). (4004)

EARLY DAYS OF DYEING. H. R. Bush. Dyer 124: 231-234 (Aug. 12, 1960). (4005)

A short survey of textile dyeing as practiced before Christ. 5 refs.

USE OF LOGWOOD BLACKS FOR DYEING NYLON AND ACETATE RAYON. Am. Dyewood Co. Am. Textile Reptr. 74: 13, 97-98 (Aug. 18, 1960). (4006)

DYEING OF NATURAL SILK WITH ACID MORDANT DYES BY THE SINGLE BATH METHOD. PART 3. S. K. Averbukh and M. K. Lepetkova. Tekhnol. Tekstil. Prom. No. 1 (14): 121-128 (1960). In Russian. Through BCIRA 40: 2691 (1960). (4007)

The optimum dyeing conditions, established for the method described on the basis of laboratory experiments, were confirmed on an industrial scale. They ensure level and bright dyeings with high wetfastness, prevent impairment of the mechanical fabric strength, and preserve fully the handle of the silk fabric.

RELATIONSHIP BETWEEN THE STRUCTURE OF SYNTHETIC FIBERS AND THEIR DYEING PROPERTIES. M. Okoniewski. Przeglad Wlok. 14, No. 2: 74-77 (1960). In Polish. Through BCIRA 40: 2685 (1960). (4008)

In this review the author discusses the effect of the physico-chemical structure of synthetic fibers on their dyeing properties, anionic, cationic, disperse, vat, and azo dyes and their affinity for synthetic fibers, and the effect of carriers and temperature on the dyeing process. 21 refs.

DECOLORIZATION OF BASIC DYES ON ACRYLIC FIBERS. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 16: 101-102 (Aug. 1960). (4009)

Precautions to prevent dye decolorization are noted.

LABORATORY DYEING APPARATUS WITH MECHANICAL AGITATION OF THE TEXTILE MATERIAL. I. Bucurenciu and I. Bazavan. Industria Textila 11, No. 5: 188-191 (1960). In Rumanian (English summary). Through BCIRA 40: 2677 (1960). (4010)

The apparatus, which is described, permits dyeing under controlled and reproducible conditions of temperature and agitation.

DYEING OF ORLON SAYELLE BI-COMPONENT ACRYLIC FIBER. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 16: 81-88 (Aug. 1960). (4011)

Orlon Sayelle can be dyed with selected cationic and disperse dyes to a complete range of shades with satisfactory colorfastness. The fiber can be processed successfully in the form of rawstock, top, yarn, knit, and woven fabrics in standard mill equipment. Differences in dyeability between Orlon Sayelle and Orlon 42 are summarized. Recommended dyeing, scouring, bleaching, and stripping procedures are given.

PETER-COUPON JIG TYPE CJ. SVF Fachorgan Textilveredlung 15, No. 5: 379-380 (1960). In German. Through BCIRA 40: 2678 (1960). (4012)

Constructional features of the jig, developed for dyeing small batches of 1-300 m (0.5-50 kg according to fabric thickness and width), are outlined.

NEW HORIZONS FOR PIGMENT DYEING. N. S. Cassel (Interchemical Corp.). Can. Textile Seminar 7: 90-95 (Sept. 1960). (4013)

The basic concepts involved in pigment dyeing and their application to an improved system of pigment pad dyeing are discussed.

DYE FORMULA CALCULATION METHOD FOR VARYING LIQUOR RATIOS. W. R. Simpson (Lockwood Greene Engrs., Inc.). Can. Textile Seminar 7: 121-126 (Sept. 1960). (4014)

This paper relates to a system for dyeing cotton yarns in pressure system circulating dye machines. This method of increasing dye formula percentages is believed to be applicable to fibers other than cotton. Graphs, tables.

FAST, EFFICIENT HIGH-TEMPERATURE DYEING. Textile World 110: 88 (Sept. 1960). (4015)

Brief outline of current practices in package and skein dyeing in high temperature units.

DU PONT SPONGE-CORE PACKAGE DYEING PROCESS. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 16: 51-59 (Aug. 1960). (4016)

The sponge-core process for package dyeing compensates for shrinkage, swelling, or bulking of yarns of all types during dyeing. Standard dye tubes of stainless steel, fiber, or springs are inserted into sponge cores which are highly compressible and work toward relieving the forces created by the yarn during package dyeing procedures. The process has been satisfactorily demonstrated on the following yarns: high-bulk Orlon, filament nylon (without preshrinking), filament Dacron (without preshrinking), rayon (dyed with vat and direct dyes), and mercerized cotton sewing thread. Sponge size selection and rejuvenation are also discussed. Photos.

REDUCING AGENTS IN VAT PRINTING. A. J. Hall. Textile World 110: 80-81 (Sept. 1960). (4017)

The characteristics and applications of Rongalite (sodium oxymethane sulfinate) for alkaline conditions, of thiourea dioxide for acid conditions, and the new all-purpose agents (based on a salt of oxyalkyl sulfinic acid to which amines are added to control excess acidity) are compared.

RELATION OF APPARENT DIFFUSION COEFFICIENT TO THE TIME OF HALF-DYEING. W. F. Kilby (Courtaulds Ltd). J. Soc. Dyers Colourists 76: 479-484 (Aug. 1960). (4018)

The relationship of the time of half-dyeing to the fractional exhaustion of a finite dyebath is considered in detail. The implications of these considerations for the theory and practice of dyeing are discussed with particular emphasis on dyeing from small volumes. Graphs, tables, 8 refs.

DETECTION OF BONDS BETWEEN DYES AND CELLULOSE BY MEANS OF THE IODINE SORPTION METHOD. PART 15. RELATIONSHIP BETWEEN IODINE SORPTION AND THE CRYSTALLINE STATE OF CELLULOSIC FIBERS. K. Schwertassek. Faserforsch. u. Textiltech. 11, No. 4: 159-164 (1960). In German. Through BCIRA 40: 2682 (1960). (4019)

Fibers dyed with reactive and substantive dyes were found to have reduced iodine sorption. This reduction is small in native and mercerized cotton fibers, but distinct in viscose fibers. In the latter, it may be due to the lattice-splitting action of strong iodine solutions. In all cases it is assumed that the decreased sorption is brought about by the dye blocking the OH-groups of the cellulose. Since this effect was not observed with vat dyes, it is concluded that in this case no linkages (or hardly any) can be present between the dye and cellulose. Sulfur dyes occupy in this respect an intermediate place between vat and substantive dyes. The decreased iodine sorption, in general, and the reduced lattice cleavage during iodine treatment of dyed viscose fibers, in particular, may be used as criteria for the presence of bonds between the dye and cellulose.

RELATIONSHIP BETWEEN THE STRUCTURE OF A SERIES OF DIRECT DYES, THEIR PARTICLE SIZE, AND THEIR DIFFUSION RATE IN CELLULOSIC FIBERS. B. N. Mel'nikov, B. M. Krasovitskii, and P. V. Moryganov. Tekhnol. Tekstil. Prom. No. 1 (14): 111-120 (1960). In Russian. Through BCIRA 40: 2683 (1960). (4020)

Diffusion coefficients were measured in cuprammonium staple fiber (at 50 and 70° C) and in the solution (at 25 and 40° C) and the particle sizes determined for a series of purified direct dyes with different structure. Rupture of the chain at the conjugated double bonds was found to lead to a rapid increase of the diffusion rate of the dyes in the fiber, reduction in their degree of association in the solution, and simultaneous decrease of their absorption by the cellulose. A rapid penetration of the dye into the fiber and a low degree of association in the solution can be obtained in the presence of one carbamide group in the molecules. Accumulation of carbamide groups in the dye molecules leads to a reduced diffusion rate and increased affinity for the cellulosic fiber. The introduction of pyridine in the dye solution has a dispersing effect as well as a favorable effect on the diffusion rate of the dye in the fiber (except in cases where the dye particles increase on account of solvate films being formed from the pyridine molecules).

PRINTING OF FABRICS OF DACRON POLYESTER FIBER. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 16: 91-100 (Aug. 1960). (4021)

This article presents information pertaining to the printing of fabrics of Dacron and is based upon both practical and laboratory experience in developing satisfactory methods and recommending suitable dyes to achieve the desired results.

DYEING BEHAVIOR OF DISPERSE DYES ON HYDROPHOBIC FIBERS. V. S. Salvin (Celanese Fibers Co.). Am. Dyestuff Reptr. 49: P600-P605, P608 (Aug. 22, 1960). (4022)

The newer concepts of theory and application of disperse dyes as applied to cellulose triacetate and polyethylene terephthalate fibers are discussed in light of: (1) mechanism of dyeing with disperse dyes, (2) factors which affect exhaustion of dyes of varying structure, (3) physical nature of the hydrophobic fiber responsible for the slow diffusion rate, (4) relation of shape, size, and polarity of dye molecules to the dyeing of specific fibers, (5) particle size behavior of disperse dyes during dyeing cycle, and (6) aspects of carrier action which contribute to dynamics of dyeing. Data are presented to show that the properties sought in dyes for optimum dyeing behavior are: (1) high saturation value for the specific fiber, (2) good diffusion rate, (3) low tendency to crystal growth in dyebath, and (4) balanced water solubility. Diagr, graphs, tables.

PRINCIPLES OF ROLLER PRINTING. PART 3. HOW THE COLOR SHOP WORKS. L. H. Ferguson (Wade Mfg. Co.). Textile World 110: 74-78 (Sept. 1960). (4023)

The organization of the color shop and the preparation and behavior of various printing pastes are described. Photos.

SURFACE PRINTING. Textile Inds. 124: 114-116 (Sept. 1960). (4024)

The advantages of surface or mechanized block printing over intaglio roller printing are cited.

ADVANTAGES OF CIBACRON DYES IN TEXTILE PRINTING. Ciba Ltd. Ciba Rev. 12, No. 138: 44-45 (June 1960). (4025)

OUTLINE PRINTING WITH NEOSOL PRINTING BLACK BDN. H. Werdenberg. Ciba Rev. 12, No. 138: 39 (June 1960). (4026)

An emulsion recipe for outline printing is given.

SCREEN VERSUS ROTARY PRINTING. Am. Textile Reptr. 74: 9-10, 95-96 (Aug. 18, 1960). (4027)

In this discussion of rotary versus screen printing techniques for large scale printing operations, the features of the Rice Barton-Deck Printmaster roller equipment, Buser screen print dryer-curer, Markem 112S screen printer, and Genie Mark VI silk screen printing press are noted. Photos.

FLASH AGING. R. D. Greene (Am. Cyanamid Co.). Textile Inds. 124: 107-109, 116 (Sept. 1960). (4028)

The methods for carrying out flash aging are described, and the importance of padder operation, ager construction, oxidation control, printing vehicle, and padding solution are discussed in detail. Diagrs.

AUTOMATIC SCREEN PRINTING. S. M. Suchecki. Textile Inds. 124: 102-106 (Sept. 1960). (4029)

The principles governing automatic screen printing, its advantages, and the steps being taken to make it an economic and efficient operation are discussed. Photos, graph.

HAND SCREEN PRINTING. F. Scalamandré (Scalamandré Silks, Inc.). Textile Inds. 124: 110-113 (Sept. 1960). (4030)

The versatility of hand printing for unique and exclusive fabrics is briefly discussed.

MACHINERY FOR AUTOMATIC SCREEN PRINTING OF TEXTILES. Textile Inds. 124: 117-124 (Sept. 1960). (4031)

Chart with data on Buser, Comerio Ercole, Reggiani, Stork, Thorne, Zimmer, Ichinose, and SACM machines.

DU PONT DYES ON AVRIL STABILIZED RAYON FIBER. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 16: 64-71 (Aug. 1960). (4032)

Fastness properties of direct and vat dyes are compared on Avril and regular rayon.

DU PONT DYES ON ACRILAN 16 ACRYLIC FIBER. E. I. du Pont de Nemours & Co. Dyes & Chem. Tech. Bull. 16: 72-80 (Aug. 1960). (4033)

Fastness ratings of cationic and disperse dyes on knit and woven fabrics are given.

Drying, setting, conditioning D4

GUIDE TO WINDING. PART 2. S. F. Oakes and A. A. Arterton (Hobbs Mfg. Co.). Modern Plastics 38: 124-129, 216-220 (Sept. 1960). (4034)

Part 2 considers auxiliary equipment for winding plastic film and sheeting and presents several sample calculations and cost estimates. Diagrs, tables.

THEORY OF DRYING WITH AIR. T. A. Gardner (Pulp & Paper Eng., Marathon). Tappi 43: 796-800 (Sept. 1960). (4035)

The operating principles of the Gardner dryer are explained, and the special features that make its use practical are emphasized. The nozzle arrangement secures unusually high drying rates without deleterious effects on the drying surface. Diagrs, graphs, 6 refs.

USE OF GAS HEATED DRYERS IN TEXTILE INDUSTRY. J. W. Powischill and C. I. Geibel (Proctor & Schwartz, Inc.). Am. Textile Reptr. 74: 59-60, 78 (Aug. 18, 1960). (4036)

The major factors responsible for the increased use of gas heated dryers in the textile industry are cited, and the basic types available are described. Photos.

EFFICIENCY TESTS ON TENTER FRAMES. S. Pongracz. Magyar Textiltech. 11, No. 1: 35-38 (1959). Through BCIRA 40: 794 (1960). (4037)

Variations in the performance of a new Hungarian nozzle-type tenter were examined as a function of steam pressure under service conditions. The results of calculations on heat engineering are tabulated and discussed.

WOOL DRYING. PART 2. SUCTION DRUM DRYER. H. Needham and W. Parkin. Wool Rev. 34: 28 (Aug. 1960). (4038)

HEAT TRANSFER AND WATER REMOVAL IN CYLINDER DRYING. PART 1. UNFELTED CYLINDERS. A. H. Nissan and D. Hansen (Rensselaer Polytechnic Inst.). Tappi 43: 753-756 (Sept. 1960). (4039)

TESTING AND MEASUREMENT E

SYMPOSIUM ON MICROSCOPY. Am. Soc. for Testing Materials, 1916 Race St., Philadelphia 3, Pa. 1959. 165 p. ASTM special technical pub. no. 257. $4.75. (4040)

Contents include: Structure of synthetic fibers, by R. G. Scott, p. 121-131; Microscopical evaluation of cotton finishing treatments, by M. L. Rollins, I. V. DeGruy, V. W. Tripp, and A. T. Moore, p. 153-165. References.

HIGH SPEED TESTING. VOL. 1. A SYMPOSIUM HELD AT BOSTON, MASS., DEC. 8, 1958. Interscience Publishers Inc., 250 Fifth Ave., New York 1, N. Y. 1960. 112 p. $5.00. (4041)

Includes the following papers of textile interest: Review of a high-speed tensile testing program for thermoplastics, by R. E. Ely, p. 3-25; Impact testing of package cushioning materials, by R. N. Maxson, p. 55-65; Rapid impact loading of textile yarns, by J. C. Smith, p. 67-81; Stress relaxation--theory and practice, by H. M. Morgan, p. 83-96. References.

EXAMINATION OF THE MECHANICAL PROPERTIES OF FIBERS AND TEXTILE PRODUCTS. G. N. Kukin. Przeglad Wlok. 14, No. 1: 4-12 (1960). In Polish. Through BCIRA 40: 2712 (1960). (4042)

Methods for determining the mechanical properties of fibers and textile products are classified, and results of experiments, carried out at the Metrological Department of the Moscow Textile Institute on the mechanical properties of fibers and textiles subjected to stretching, are reported. Two pulsator-type devices (PK-1 for cords and fabrics and PK-2 for yarns) constructed by the author are described, and examples are cited to stress the importance of laboratory experiments in industrial practice.

Fibers E1

SCHEME FOR FIBER IDENTIFICATION WITH EMPHASIS ON NEW POLYACRYLIC, POLYAMIDE, POLYESTER, AND CELLULOSIC FIBERS. R. S. Merkel (Inst. Textile Technol.). Am. Dyestuff Reptr. 49: 625-637 (Sept. 5, 1960). (4043)

A general scheme of qualitative fiber analysis which depends mostly upon solubility and staining behavior and color reactions is described. Special attention is given to distinguishing among the newer nylon fibers (nylon type 420, nylon type 501, Rilsan), acrylic fibers (Acrilan 16, Creslan, Darvan, Darvan X-7, Dynel 97, Orlon Cantrece, Orlon 39, Orlon 25, Verel, Zefran), polyester fibers (Dacron 64, Kodel, Vycron), cellulose triacetate (Arnel), and cellulosic fibers (Corval, Fiber 40, Fiber 500, SM-27, Topel, Zantrel). An annotated bibliography of some recent papers on fiber identification is included. Photomicrographs, tables, 3 refs.

NEW LOOK AT COTTON QUALITY RELATIONSHIPS. F. E. Newton (U. S. Dept. Agri.). Textile Inds. 124: 132-138 (Sept. 1960). (4044)

In this analysis of the relationships between laboratory measurements of cotton fiber properties, classer's grade and staple, and cotton quality, it was found that for the full range of grades or staples in the standards bales, there is very little difference between the amount of variation explained by the classer and that explained by laboratory measures that are similar to grade and staple. Comparative cost and reliability figures for classification and laboratory testing are included. Graphs, tables, 17 refs.

QUANTITATIVE DETERMINATION OF NATURAL SILK (SCHAPPE) IN YARN BLENDS. E. Frieser. Textil-Rundschau 15, No. 5: 238-248 (1960). In German. Through BCIRA 40: 2734 (1960). (4045)

Old and new chemical methods for analyzing yarn blends containing schappe silk are reviewed, and the accuracy of the individual quantitative methods of determination is improved by the application of new correction factors for blends of schappe silk with cotton, linen, wool, regenerated cellulose, acetate, synthetic protein, polyamide, polyester, polyacrylonitrile, and polyvinylchloride fibers.

ANALYSIS OF FIBER BLENDS. T. Szentpaly, R. Szentpaly, and A. Stark. Faserforsch. u. Textiltech. 11, No. 4: 189-195 (1960). In German. Through BCIRA 40: 2733 (1960). (4046)

Methods for determining the constituents of cotton/viscose rayon staple, wool/viscose rayon staple, wool/polyamide, wool/polyester, wool/polyacrylonitrile, and wool/regenerated protein (Ardil, Merinova) fiber blends and for separating 3- and 4-component blends are described, and the results are tabulated.

Yarns E2

RANDOM SAMPLING PLANS. K. Schön. Z. ges. Textil-Ind. 62, No. 11: 434-439 (1960). In German. Through BCIRA 40: 2725 (1960). (4047)

Acceptance tests for yarns, fabrics, etc. on the basis of random sampling plans are discussed.

SIMPLE METHOD FOR CHECKING NEP COUNT. Whitin Mach. Works. Whitin Rev. 27: 40-41 (June 1960). (4048)

A visual method without the use of special apparatus is described. All counts are made on the basis of neps per 10 grains of sample which may be taken from any points such as the bale, lap, sliver, or roving. Photos.

Fabrics E3

PERFORMANCE INDEX FOR THE ASSESSMENT OF WASH-AND-WEAR FINISHES ON COTTON FABRICS. R. Aenishänslin. Ciba Rev. 12, No. 138: 36-38 (June 1960). (4049)

The formula proposed for assessment of wash-and-wear finishes on cotton fabrics enables their service performance with respect to crease recovery and tensile strength in the dry state to be expressed as a single numerical value. Diagrs.

CLOTH TEARING STRENGTH. LITERATURE SURVEY. PART 3. B. Edberg, L. Sonnerup, and T. Eeg-Olofsson. Medd. TEFO No. 7: 1-24 (1960). In Swedish. Through BCIRA 40: 2739 (1960). (4050)

The third part of this review (abstr. 3649/60) relates to theoretical studies of the tongue-tear test and the trapezoidal test.

COMPARATIVE EXAMINATION OF FABRICS ON THE AIR PRESSURE APPARATUS AND IN THE AERODYNAMIC TUBE. L. V. Potapova. Tekhnol. Tekstil. Prom. No. 1 (14): 40-46 (1960). In Russian. Through BCIRA 40: 2738 (1960). (4051)

The values obtained on both devices for the breaking pressure, the depth of curvature, and the fabric performance calculated from them are in good agreement. The breaking value obtained on the air-pressure apparatus can be used in practical evaluation of the suitability of fabrics for technical purposes.

FRYMA EXTENSIOMETER. Frymann & Fletcher Ltd. Textile Weekly 60 (2): 394 (Aug. 19, 1960). (4052)

The extensiometer was developed to determine the extensibility of fabrics used in gloves and similar articles of apparel.

EVALUATION OF CARPETS IN THE LABORATORY. H. Palfreeman and B. Brindley (Courtaulds (Canada) Ltd). Can. Textile Seminar 7: 152-159 (Sept. 1960). (4053)

The purpose of this paper is to describe the equipment and methods which the authors have been using in attempts to achieve reliable evaluation of carpets under the controlled conditions of the laboratory. Methods for determining pile density, latex backing properties, durability, resiliency, static crushing, lightfastness, wetfastness, tuft retention, and flammability are outlined. Photos, graphs, tables.

TESTING OF BACTERIA INHIBITING FABRICS. W. Ernst and M. Sorkin. Textil-Rundschau 15, No. 5: 233-238 (1960). In German. Through BCIRA 40: 2751 (1960). (4054)

The American method 90-1958 of the AATCC was found satisfactory for testing bacteriostatic finishes, but has the disadvantages that the growth under the fabric depends largely upon the type of fabric and that only one type of bacterium is used. Effective agents inhibit growth partly or completely; in the latter case, inhibiting zones occur also on the fabric. According to the type of the agent, the inhibiting zones are either well or poorly defined and sometimes even intensified. During successive washing, the inhibiting zone decreases exponentially; when it reaches zero, the bacterial growth commences under the fabric. Good washfast agents show values between 0.4 and 0.8; desirable, however, would be washfastness values of 0.9 and more (even for thin fabrics), which would correspond to the fastnesses of the Felisol dyes.

ORGANIZATION OF CLOTH INSPECTION. A. Cross and G. Newbery. Textile Recorder 78: 52-54 (Aug. 1960). (4055)

Suggestions for the organization of effective process control inspection in the weaving factory are presented. Sampling procedures, types of faults, and methods of inspection, recording faults, and analysis of record sheets are discussed in detail. Diagr, graphs.

TEST FOR RECOVERY OF FABRICS FROM CREASING. Brit. Standards Institution, London. 1959. 11 p. B.S. 3086:1959. 4s [56¢]. (4056)

CONTINUOUS MAKING-UP INSPECTION OF KNIT GOODS. K. Mamnicki-Manson. Hosiery Trade J. 67: 97-99 (Aug. 1960). (4057)

Recommendations on sampling, inspection reports, quality level, control charts, and the interpretation of results are given.

Other E4

PAPER CHROMATOGRAPHY OF DIRECT AZO DYES. G. Kiel and H. I. Hout. Tex 19, No. 3: 131-141 (1960). In Dutch. Through BCIRA 40: 2752 (1960). (4058)

An attempt is made to develop a chromatographic method for the identification of direct (azo) dyes and the separation and identification of dye mixtures. It is shown that, by using pyridine/water as eluent and Whatman paper No. 52, it is possible to obtain good chromatograms of compounds belonging to different structural groups and to determine their R_f values. Experimental results are tabulated.

REZEPTBUCH FÜR FASERSTOFF-LABORATORIEN: MIKROSKOPISCHE UND CHEMISCHE TEXTILUNTERSUCHUNGEN. [Recipe-book for the textile laboratory: microscopical and chemical textile tests] P.-A. Koch. Springer-Verlag, Berlin. 1960. 239 p. In German. DM 31.50 [$7.55 approx.]. (4059)

Includes: review of the chemicals used in textile testing; table of textile fibers; reagents and other aids for microscopic investigation; tables of fiber identification reactions; quantitative separation of fibers and tests for impurities; analysis of sizes, dyes, and finishes; tests for fiber damage. References.

EFFECT OF LIGHT ON FABRICS FROM STAPLE FIBER. J. A. Legkun. Przeglad Wlok. 14, No. 1: 26-32 (1960). In Polish (translation from Russian). Through BCIRA 40: 2744 (1960). (4060)

The effect of dye concentration on the fading rate of dyeings on spun rayon fabrics is studied, and methods for determining the lightfastness of dyeings (use of 5-grade blue scale, photometric, and colorimetric) are compared.

DETERMINATION OF NONCOTTON CONTENT OF BLEACHED COTTON TEXTILES. AATCC Comm. on Bleaching. Am. Dyestuff Reptr. 49: P606 (Aug. 22, 1960). (4061)

Tentative test method 97-1960 is intended for determining the amount of water-soluble material, starch size, oils, fats, waxes, and water-insoluble mineral matter in cotton yarn or fabric.

DETERMINATION OF ALKALI IN BLEACH BATHS CONTAINING HYDROGEN PEROXIDE. AATCC Comm. on Bleaching. Am. Dyestuff Reptr. 49: P607 (Aug. 22, 1960). (4062)

Tentative test method 98-1960.

DETERMINATION OF THE CONCENTRATION OF CERTAIN DYES BY THE KARL FISCHER SOLUTION. I. Rusznak, K. Fukker, and M. Lay. Magyar Textiltech. 11, No. 1: 4-6 (1959). Through BCIRA 40: 769 (1960). (4063)

MILL MANAGEMENT F

PUBLIC RELATIONS IN INDUSTRY. J. S. Richardson (Northern Elec. Co. Ltd). Can. Textile Seminar 7: 182-185 (Sept. 1960). (4064)

HUMAN RELATIONS IN INDUSTRY. R. E. Duval (Bishop's Univ.). Can. Textile Seminar 7: 186-187 (Sept. 1960). (4065)

Industrial engineering F1

OPTIMUM CONDITIONS AT THE WORKING PLACE AND IN THE PLANT FROM THE VIEWPOINT OF TECHNICAL AND ECONOMIC PRODUCTIVITY. E. Wedekind. Z. ges. Textil-Ind. 62, No. 11: 429-434 (1960). In German. Through BCIRA 40: 2791 (1960). (4066)

The problems of the optimum productivity calculation are elucidated by giving some examples, and relationships are established for the case of multimachine attendance and team work.

AUTOMATIC CONTROL IN THE TEXTILE INDUSTRY. TECHNICAL PRINCIPLES AND USE OF MEASURING AND CONTROL DEVICES. A. De Groot. Rev. Textilis 15, No. 12: 25-30 (1959); 16, No. 1: 39-45; No. 3: 19-23; No. 4: 21-23; No. 5: 37-39 (1960). In Dutch. Through BCIRA 40: 2710 (1960). (4067)

HOW TO ORGANIZE A TRAINING PROGRAM WITHIN A MILL. A. A. Laurin (Dominion Textile Co. Ltd). Can. Textile Seminar 7: 58-62 (Sept. 1960). (4068)

Basic principles and a suggested organization for an in-plant training program are presented.

SQC IN A TEXTILE MILL: PROBLEMS AND PROSPECTS. M. K. Vagholkar and D. S. Borwankar (Bombay Textile Research Assoc.). Bull. Quality Control Assoc. Bangalore 7: 20-24 (May 1960). (4069)

The need for statistical quality control in the Indian textile industry is discussed under the headings: control points, practical difficulties, and sustained efforts. Tables, 5 refs.

SIMPLE PROCEDURES ESTABLISH REALISTIC TOLERANCES. PART 2. TOLERANCES FOR FITS AND CLEARANCES. N. L. Enrick. Machinery: 131-132 (July 1960). (4070)

A consideration of combination of frequency distributions, and resultant possibilities of overlap and excessive distance. Although the illustrations refer to dimensional characteristics, parallel applications may be made to unit weight, such as yarn size.

CHALLENGE OF PERSONNEL MANAGEMENT IN THE 1960'S. J. C. Werner (Werner Textile Consultants). Can. Textile Seminar 7: 96-100 (Sept. 1960). (4071)

NOISE CONTROL IN TEXTILE PLANTS RAISES MACHINE AND OPERATIVE EFFICIENCIES. P. W. Sherwood. Textile Mfr. 86: 308-309 (Aug. 1960). (4072)

Some details are given of the American Standards Association method in which safe loudness ranges at various frequencies have been determined.

MORALE AND LEADERSHIP. J. A. Hornibrook (Du Pont of Canada Ltd). Can. Textile Seminar 7: 127-129 (Sept. 1960). (4073)

PRODUCTION COST CONTROL IN THE MILL. D. C. Patridge (Bishop's Univ.). Can. Textile Seminar 7: 164-167 (Sept. 1960). (4074)

A production cost control system must be able to communicate information on what management wants done, motivate the organization to act in ways most likely to further the objectives of cost reduction, and evaluate individual performance. The implementation of such a program is discussed. 12 refs.

VARIATIONS FLOW ANALYSIS. N. L. Enrick. Technometrics 2: 373-386 (Aug. 1960). (4075)

Variations flow analysis is a technique of evaluating the transfer of variations in stock, when the product from several machines at one processing stage is fed randomly to the several machines of the succeeding stage. This paper describes procedures, based on modifications of range methods for analysis of variance, which have been found of value in a large number of applications. The methods are illustrated with examples from yarn manufacture. Diagrs, tables, 15 refs.

Plant and equipment F2

INVESTMENT CASTINGS FOR TEXTILE MACHINERY. Textile Recorder 78: 63-64 (Aug. 1960). (4076)

The limitations and advantages of investment castings for the repetition production of small components, particularly those of intricate design or of special alloys, are discussed. Photo.

PREVENTIVE MAINTENANCE. R. B. Pressley. Textile World 110: 43-47 (Sept. 1960). (4077)

The organization, implementation, and achievements of the preventive maintenance program in operation at the Chatham Mfg. Co. are described.

TRAVELING CLEANERS. W. G. Ashmore. Textile World 110: 50-58 (Sept. 1960). (4078)

Key facts on cost and engineering design of commercially available spinning frame cleaners, floor sweepers, loom cleaners, ceiling cleaners, and roving frame cleaners. Photos, tables.

SCIENCES G

Chemistry G1

ELASTOMERIC PROPERTIES OF ETHYLENE-PROPYLENE COPOLYMERS. G. Natta and G. Crespi. Rubber Age 87: 459-465 (June 1960). (4079)

PROPERTIES AND STRUCTURE OF POLYMERS. A. V. Tobolsky. John Wiley & Sons, 440 Fourth Ave., New York 16, N. Y. 1960. 331 p. $14.50. (4080)

This book provides a description and an explanation of the mechanical behavior of polymers (e.g., fibers, rubber, plastics, etc.) in terms of the fundamental principles of molecular structure and dynamics.

NEW POLYMERS--NEW PROBLEMS. H. F. Mark. Am. Soc. for Testing Materials, 1916 Race St., Philadelphia 3, Pa. 1960. 8 p. $1.00. (4081)

Edgar Marburg lecture, 1959.

ISOTROPY OF GAUSSIAN MOLECULAR NETWORKS AND THE STRESS-BIREFRINGENCE RELATIONS FOR RUBBERLIKE MATERIALS CROSS-LINKED IN STRESSED STATES. A. S. Lodge (Brit. Rayon Research Assoc.). Kolloid Z. 171: 46-51 (July 1960). (4082)

QUANTITATIVE X-RAY DIFFRACTION STUDY OF THE ALPHA-BETA TRANSFORMATION IN WOOL KERATIN. E. G. Bendit (C.S.I.R.O. Wool Research Labs.). Textile Research J. 30: 547-555 (Aug. 1960). (4083)

The alpha-beta transformation has been investigated with a Geiger counter x-ray diffractometer by observing the variations of peak intensity of the three prominent reflections (5.1 Å, 4.65 Å, 9.8 Å) of the wide-angle x-ray diagram of wool during extension under different conditions of temperature and humidity. Some incidental observations, such as the effect of x-radiation on the alpha-beta transformation, are also reported. A brief outline of a correction procedure which takes account of counting loss, air scattering, and variation of absorption and diffracting material during extension is included. Graphs, 20 refs.

X-RAY ABSORPTION PHENOMENON ON COTTON. H. Ruck. Kolloid Z. 170, No. 1: 63-64 (1960). In German. Through BCIRA 40: 2715 (1960). (4084)

Preliminary results are reported from experiments on cotton linters, in which the small-angle scattering coefficient was determined, with an accuracy of ±5%, by means of a Geiger-counter arrangement. The results for untreated and treated cotton linters (boiled in a methanol-benzene mixture, dried from acetone, and subsequently kier-boiled) indicate a fibrillar character of the material, the fibril diameter confirming the model developed by Frey-Wyssling for native cellulose, in which each four elementary fibrils, having a cross-section of about 45.100 Å (including the para-crystalline peripheral layer), form a micro-fibril strand of about 9.200 Å. A considerably increased inner surface of the system (in this case by about 65%) also corresponds to the disintegration into elementary fibrils. The observations on native cellulose apply to all fibrillar-dispersed high polymers, e.g. regenerated and synthetic fibers.

X-RAY DIFFRACTION PATTERN OF IODINATED WOOLS. A. R. Haly and M. Feughelman (C.S.I.R.O. Wool Research Labs.). (Letter to the editor). Textile Research J. 30: 622-623 (Aug. 1960). (4085)

MEASUREMENT OF MOLECULAR ORIENTATION IN FIBERS BY ACOUSTIC METHODS. W. W. Moseley, Jr. (E. I. du Pont de Nemours & Co.). J. Appl. Polymer Sci. 3: 266-276 (May/June 1960). (4086)

Diagrs, graphs, tables, 18 refs.

FINE STRUCTURE OF POLYAMIDES. PART 2. EFFECT OF SMALL CRYSTALLITES ON THE X-RAY DIAGRAM OF POLYCAPROLACTAM. C. Ruscher and H.-J. Schröder. Faserforsch. u. Textiltech. 11, No. 4: 165-172 (1960). In German. Through BCIRA 40: 2718 (1960). (4087)

The x-ray diagrams of variously-treated polycaprolactam samples show shifts of the interferences (200) and (002). Changes in the positions of the interference maxima were calculated for the equator of the polycaprolactam diagram, giving up to 2% for the (200) deviations. The effect of crystallite size on the position of the interferences is examined, and the results are discussed.

NOTE ON THE HEMICELLULOSES OF MESTA FIBER (HIBISCUS CANNABINUS). S. K. Sen (Indian Central Jute Comm.). (Letter to the editor). Textile Research J. 30: 544-545 (July 1960). (4088)

ELASTOMERS. B. S. Garvey, Jr. (Pennsalt Chem. Corp.). Ind. Eng. Chem. 52: 889-891 (Oct. 1960). (4089)

An I/EC materials of construction review. 113 refs.

INDUSTRIAL DETERGENTS. H. C. Speel (Univ. Oil Prods. Co.). Soap Chem. Specialties 36: 59-61, 115 (Sept. 1960). (4090)

Possibilities and probabilities of improvements in the industrial surfactant field are discussed. Biological degradation in water purification is one of the biggest problems to be solved.

LABORATORY METHODS FOR EVALUATION OF DRY-CLEANING DETERGENTS. PART 1. L. E. Weeks and J. T. Lewis (Monsanto Chem. Co.). Soap Chem. Specialties 36: 65-68 (Sept. 1960). (4091)

Laboratory methods are presented for evaluating dry-cleaning detergents. Physical tests include detergent stability, solvent solubility, and flash point. Functional tests are carbon soil redeposition, soiled wool detergency, and water soluble soil removal. Data presented show that functional tests have reasonable correlation with practice. These tests are fairly rapid to run, require a minimum of equipment, and have good reproducibility. They are useful for comparative evaluation of proprietary compositions as well as for screen testing surfactants and formulations in product development. Photos, graphs, tables, 7 refs.

BUILDERS AND FILLERS IN HOUSEHOLD DETERGENTS. N. Pilpel. Research 13: 336-343 (Sept. 1960). (4092)

NITRATABILITY OF DIFFERENTLY TREATED EGYPTIAN COTTON LINTERS. A. Mustafa, A. F. Dawoud, and Y. A. Fahmy (Univ. of Cairo). Tappi 43: 725-729 (Aug. 1960). (4093)

6-THIO DERIVATIVES OF CELLULOSE AND D-GLUCOSE. G. Hebblethwaite, R. F. Schwenker, Jr., and E. Pacsu. Proc. Cellulose Conference 2: 214-229 (1959). (4094)

SPECTROSCOPY AND PHOTOCHEMISTRY OF CELLULOSE TENDERING DYES. E. W. Abrahamson, I. Panik, and K. V. Sarkanen. Proc. Cellulose Conference 2: 127-141 (1959). (4095)

BEHAVIOR OF NONAQUEOUS DRYCLEANING DETERGENTS. PART 2. FABRICS IN NONAQUEOUS DETERGENT SYSTEMS. E. Hirschhorn (R. R. Street & Co.). Soap Chem. Specialties 36: 62-64, 105, 108-109 (Aug. 1960). (4096)

INFRARED SPECTRUM OF CELLULOSE: STRUCTURE AND CONFORMATION IN NATIVE AND MERCERIZED CELLULOSE. C. Y. Liang and R. H. Marchessault. Proc. Cellulose Conference 2: 68-79 (1959). (4097)

GRAFTING ONTO CELLULOSE AND CELLULOSE DERIVATIVES USING UV IRRADIATION. N. Geacintov, V. T. Stannett, E. W. Abrahamson, and J. J. Hermans. Proc. Cellulose Conference 2: 142-159 (1959). (4098)

PROPORTION OF ADSORPTION WATER DURING SWELLING OF CELLULOSE FIBERS. W. Koblitz and H. Kiessig. Papier, Darmstadt 14, No. 5: 178-185 (1960). In German. Through BCIRA 40: 2478 (1960). (4099)

Experiments were carried out on natural and chemically modified cellulose fibers to obtain information on the distribution of the water remaining in the fiber after centrifugation under standard conditions. This water consists of capillary water, adsorption water, and water of crystallization. The adsorption water was determined by the known method of non-dissolving water on rayon, formalized rayon, cellulose acetate and triacetate, and Kuralon (polyvinyl alcohol). The relationship between water of adsorption and heat tone, apparent density of the sorption water, sorption isotherms, and the swelling pressure curve is discussed, and the proportions of adsorption water, capillary water, and water of crystallization contained in the centrifugal swelling value are given for native cotton, super-cord, and rayon.

DIRECT NITRATION OF FLAX AND JUTE. M. Lewin and J. A. Epstein (Inst. for Fibres & Forest Prods. Research, Israel). Textile Research J. 30: 520-523 (July 1960). (4100)

Three samples of flax and one sample of jute were nitrated with a mixture of $HNO_3/H_3PO_4/P_2O_5$ for several lengths of time, ranging from 1/2 to 72 hr. The crude nitrate, Fraction A, was extracted with acetone and the acetone extract precipitated with water, giving three fractions: A1, the acetone-soluble fraction precipitated by water, A2, the acetone-insoluble fraction, and A3, the acetone- and water-soluble fractions. The DP's of Fraction A1 were determined. The mode of variation of the amount of Fraction A2 with time of nitration suggests the existence of intercarbohydrate links in jute but not in flax. Graph, tables, 12 refs.

PHYSICAL CHEMISTRY OF SURFACES. A. W. Adamson. Interscience Publishers, New York. 1960. 629 p. $12.75. (4101)

Contents: Capillarity; Nature and thermodynamics of liquid-gas interfaces; Surface films on liquid substrates; Electrical aspects of surface chemistry; Surfaces of solids; Long range forces; Friction and lubrication; Wetting, flotation, and detergency; Emulsions and foams; The surface areas of solids and an introduction to adsorption; Adsorption of gases and vapors on solids; The surface area of solids; Chemisorption and catalysis; Adsorption from solution.

CHARACTERIZATION OF ALKALI SOLUBLES OF CELLULOSE BY X-RAY DIFFRACTION ANALYSIS. M. Horio, R. Imamura, and K. Tani (Kyoto Univ.). Tappi 43: 769-775 (Sept. 1960). (4102)

Physics G2

MEASURING AND PREDICTING THE GENERATION OF STATIC ELECTRICITY IN MILITARY CLOTHING. A. M. Crugnola and H. M. Robinson. Natick, Mass., U. S. Quartermaster Research and Engineering Center, Textile, Clothing and Footwear Div. 1959. 66 p. Textile series report no. 110. (4103)

The report is in five sections covering (1) static electricity theory, (2) field data, (3) evaluation of antistatic finishes, (4) the Quartermaster meter designed during the study for measuring static electricity, and (5) the effect of other finishes on antistatic agents. 44 refs.

USE OF RADIOACTIVE ISOTOPES FOR SOIL REMOVING STUDIES. H. Zeidler. Deut. Textiltech. 10, No. 4: 199-201 (1960). In German. Through BCIRA 40: 2755 (1960). (4104)

The radioactive indicator method was used for studies on detergents. As compared with the conventional methods in which the concentration of dark pigments is determined by reflection measurements, the radioactive indicator method has several advantages. It was possible to study the desorption and absorption of various labeled substances on cotton and PeCe textiles as a function of time. A simple adsorption labeling with iron oxide pigment and preparation of radioactive zirconyl phosphate with varying particle size are described. The applicability of compounds labeled with other isotopes (e.g. Tl^{204}) for studying the kinetics of detergents was proved by using the method described.

DIFFERENTIAL THERMAL ANALYSIS AND ITS APPLICATION TO POLYMERIC MATERIALS. C. B. Murphy (Gen. Elec. Co.). Modern Plastics 37: 125-130, 199-200 (Aug. 1960). (4105)

The applications of differential thermal analysis to the study of the chemistry and properties of plastics are reviewed. Graphs, 27 refs.

Biology G3

DEVELOPMENTS IN INDUSTRIAL MICROBIOLOGY. VOL. 1. Society for Industrial Microbiology. Plenum Press, New York. 1960. 267 p. $7.50. (4106)

Contents include a section on self-sanitizing agents for fabrics, with the following papers: Problems in the selection, testing, and formulation of antibacterials to be used as textile additives, by J. C. Chapin, p. 59-64; Factors involved in testing products carrying residual germicidal chemicals, by L. S. Stuart, p. 65-73; and The merchant looks at microbiology, by E. Kramer, p. 74-78. References at the end of each paper.

MISCELLANY H

ENGLISH-GERMAN TEXTILE DICTIONARY. [WORTERBUCH DER TEXTILINDUSTRIE. BAND 2. ENGLISCH-DEUTSCH]. L. De Vries and O. H. Luken. Brandstetter Verlag, Wiesbaden, Germany. 1960. 368 p. Approx. $6.50. (4107)

DYEING EDUCATION IN GLASGOW: FROM ANDERSON'S UNIVERSITY (1796) TO THE ROYAL COLLEGE OF SCIENCE AND TECHNOLOGY (1958). R. A. Peel. J. Soc. Dyers Colourists 76: 490-495 (Aug. 1960). (4108)

INDUSTRIAL FIBERS, 1960. Published for the Commonwealth Economic Committee by Her Majesty's Stationery Office, London. 1960. 236 p. 10s [$1.40]. (4109)

Subtitle: A review of production, trade, and consumption relating to wool, cotton, silk, flax, jute, sisal and other hemps, mohair, coir, kapok, rayon and other manmade fibers.

BASIC FACTS ABOUT THE CARPET AND RUG INDUSTRY. 1960 EDITION. Am. Carpet Inst., Empire State Bldg., New York 1, N. Y. 1960. 29 p. Free. (4110)

THE TEXTILE MACHINERY SOCIETY OF JAPAN: AN APPRAISAL. K. Fujino (Kyoto Univ.). J. Textile Machy. Soc. Japan 6: 1-4 (June 1960). (4111)

RESUME OF WHITIN MACHINES AT AMERICAN TEXTILE MACHINERY EXHIBITION. Whitin Rev. 27: 4-25 (June 1960). (4112)

Features of the following machines are summarized: M6 Even-Draft drawing frame, Super Lap machine, Super J Comber, Model P roving frame, Piedmont Model K spinning frame, American worsted comber, KW American system spinning frame, Flex-Spin wool spinning frame, Pacemaker P and P3 twisters, and Commodore D3 twister. Photos, diagrs.

OPERATIONS RESEARCH: AN ANNOTATED BIBLIOGRAPHY. 2d ed. J. H. Batchelor. St. Louis University Press, St. Louis, Missouri. 1959. 866 p. $10.00. (4113)

A comprehensive bibliography, through 1957, including several papers on operations research in the textile industry.

TEXTILE WORLD FACT FILE ISSUE 1960. Textile World 110, No. 7A: 1-304 (Mid-July 1960). (4114)

Mill reference data are presented under the following categories: manufacturing, chemical treatment and finishing, and engineering. A buyer's guide with a classified list of companies supplying the textile industry is included.

MANUAL OF TEXTILE INDUSTRY OF CANADA 1960. Canadian Textile Journal Pub. Co. Ltd, 223 Victoria Ave., Westmount, Montreal 6, Quebec. 1960. 340 p. (4115)

Contains articles on the technology and economics of the Canadian textile industry, machinery developments, and textile research. A buyers' guide section, mill directory, and a textile technical and trade association directory are also included.

A LISTING OF PRIMARY STATISTICAL DATA REPORTS ON THE TEXTILE INDUSTRY. Textile Organon 31: 138 (Aug. 1960). (4116)

A list of 60 primary statistical data reports on the textile industry gives title, frequency of issue, and publisher.

PATENT CHECKLIST

U.S. patents may be obtained from the U.S. Patent Office, Washington 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.

FIBERS A

Natural fibers A1

TRIPLE MOTING GIN. F. E. Deems and J. E. Salmon (to Continental Gin Co.). USP 2 949 644, Aug. 23, 1960. (4117)

Centrifugal mote and trash separator for cleaning cotton lint after it is pulled through the gin ribs.

Manmade fibers A2

PROTEIN/POLYSACCHARIDE FIBERS. C. Giddey (to F. P. Research Ltd). USP 2 947 644, Aug. 2, 1960. (4118)

Protein/polysaccharide fibers are produced from spinning solutions to which a polysaccharide having ionizable sulfate side groups has been added, e.g. carrageenin. The addition of the polysaccharide produces a viscosity suitable for spinning without the conventional aging process and permits the use of protein solutions of low purity.

PROCESS FOR PRODUCING POLYESTER FILMS AND FILAMENTS HAVING A METALLIC LUSTER. D. S. Adams, A. Ernst, and R. S. Prengle (to E. I. du Pont de Nemours & Co.). USP 2 948 583, Aug. 9, 1960. (4119)

ACRYLONITRILE FIBERS WITH CRENULATED CROSS-SECTION. R. D. Euler and R. L. Tichenor (to E. I. du Pont de Nemours & Co.). USP 2 948 584, Aug. 9, 1960. (4120)

VISCOSE FILAMENTS OF IMPROVED WHITENESS. F. B. Jones (to Am. Enka Corp.). USP 2 950 207, Aug. 23, 1960. (4121)

A synergistic combination of pigments consisting of titanium dioxide, Phthalocyanine Blue, and Indanthrene Bordeaux is added to the spinning solution.

YARN PRODUCTION B

FALSE TWIST CRIMPING DEVICE. P. van Dijk (to Am. Enka Corp.). USP 2 943 433, July 5, 1960. (4122)

False twist device of low peripheral speed for imparting high twist to yarns running at high speeds consists of two rotatably mounted rollers in the form of hyperboloids.

PRODUCTION OF TWISTLESS YARNS BY DIRECT SPINNING. G. Tissot and E. Teissier (to Soc. de Constructions Mecaniques de Stains). USP 2 946 181, July 26, 1960. (4123)

The slivers produced by stretch breaking a tow bundle are sized with a water soluble binder, false twisted, dried and untwisted, and wound.

STUFFER BOX CRIMPING APPARATUS. J. W. I. Heijnis and C. J. Gonsalves (to Am. Enka Corp.). USP 2 949 659, Aug. 23, 1960. (4124)

Apparatus for restricting yarn passage through the stuffer box while preventing wrap of the yarn around the feed rolls.

FALSE TWIST CRIMPING APPARATUS FOR CURLED YARN. P. van Dijk (to Am. Enka Corp.). USP 2 949 721, Aug. 23, 1960. (4125)

Device for effecting uniform transfer of heat from a metal surface to a yarn.

FALSE TWIST CRIMPING APPARATUS FOR CURLING YARN. H. A. Schrenk, P. Van Dijk, and J. W. I. Heijnis (to Am. Enka Corp.). USP 2 949 723, Aug. 23, 1960. (4126)

Unitary heater and false twisting spindle assembly in which the position of the heating tube relative to the spindle is always correctly maintained.

KNOT-DETECTING ASSEMBLY FOR TOW CRIMPING MACHINE. M. Sonnino (to Am. Cyanamid Co.). USP 2 950 520, Aug. 30, 1960. (4127)

Opening, picking, fiber preparation B1

OPENING MACHINE. A. E. Callaghan (to A. E. Callaghan & Son Ltd). BP 835 215, May 18, 1960. Through BCIRA 40: 2633 (1960). (4128)

The machine, with minor modifications, may be used for opening, cleaning, and blending all types of fiber and hair, and particularly wastes. The main parts are a horizontal, rotary, spiked drum in a casing mounted on a stand underneath a pair of feed rollers that transfer fiber from a hopper above them to the drum below. The roller surfaces may be plain, knurled-covered helically with wire or wrapped in wire netting. There may be two or even three pairs of superposed feed rollers.

COTTON LINT CLEANING APPARATUS. D. D. Day (to Murray Co. of Texas). USP 2 948 022, Aug. 9, 1960. (4129)

Apparatus for subjecting cotton lint to combing or carding action by means including a toothed saw cylinder, a toothed rotary feeding roll, and one or more grid or stripper bars for separating out dirt and trash from the fibers as they are whipped past the bar while adhering to the teeth of the rotating saw cylinder.

Carding and combing B2

TOP COMB CLEANING DEVICE FOR COMBING MACHINES. Soc. Alsacienne de Constructions Mecaniques. BP 835 398, May 18, 1960. Summary in BCIRA 40: 2635 (1960). (4130)

METHOD OF MOUNTING AN END-RETAINING RING ON A CARD ROLL. J. D. Hollingsworth. BP 834 499, May 11, 1960. Through BCIRA 40: 2634 (1960). (4131)

The invention relates to means for replacing flexible card fillet on a roller with metallic clothing. The strip material that is used to make an end-retaining ring, fitting into a groove on the roller, is prefabricated to the desired cross-section, thus overcoming the need for machining the ring when once in place.

METHOD AND APPARATUS FOR PRODUCING SLIVER SUITABLE FOR USE ON THE AMERICAN SPINNING SYSTEM. H. B. Riehl and J. W. Powischill (to Proctor & Schwartz, Inc.). USP 2 937 411, May 24, 1960. (4132)

Apparatus and method for producing a uniform sliver for use on the short or American system of spinning. The fibers are received in loose bulk form in the hopper of the weighing feed and are deposited in the can of the can coiler in the form of sliver. The fibers are completely blended during the process and the uniformity which is obtained by the weighing feed, the doubling and drafting on the apron, and the stripping by the doffer of the finisher card, is controlled within the desired limits without substantial supervision and without the necessity for intermediate devices to compensate for variations in the webs or slivers produced.

SLIVER DRAFTING APPARATUS. E. Bonalumi (Italy). USP 2 948 023, Aug. 9, 1960. (4133)

Apparatus for drafting fibers in the form of a web immediately after doffing from a carding machine.

CARDING MACHINE. S. Noda (to Howa Kogyo KK). USP 2 949 645, Aug. 23, 1960. (4134)

Two lickerin rollers are used: one adjacent the feed roll which can be rotated slowly so that combing between feed roll and lickerin may be effected without formation of broken fibers; the second adjacent the main cylinder which can be driven at high speeds to prevent nep formation.

Drawing and roving B3

DOUBLE APRON DRAFTING APPARATUS. J. Noguera (to Casablancas High Draft Co. Ltd). BP 835 300, May 18, 1960. Through BCIRA 40: 2636 (1960). (4135)

The forward end of the upper cradle for the Casablancas double-apron drafting unit is arranged to engage with a broad platform-like tensor in the lower cradle for the purpose of determining the permitted maximum tensor spacing at the delivery opening.

DOUBLE APRON DRAFTING APPARATUS. J. Noguera (to Casablancas High Draft Co. Ltd). BP 835 302, May 18, 1960. Through BCIRA 40: 2637 (1960). (4136)

So that the standard Casablancas unit for cotton may be converted to deal with long and short fibers, the lower tensor has a convex upper working surface extending over most of the operative run of the lower band and serves to deflect this run around an arcuate path so that the fibers are always gently urged against the upper surface of the lower band. Either or both the top band and its driving roller is/are peripherally recessed over the working area so as to decrease the fiber control by the two bands, at least at the nip between the driving rollers.

SLIVER CONVEYING APPARATUS. E. Schütz (to Kammgarnspinnerei Kaiserslautern). USP 2 948 025, Aug. 9, 1960. (4137)

Apparatus for conveying sliver from one processing machine to another in a continuous manner by depositing the sliver in piles of zig-zag folds at the inlet side of a processing machine as it is fed from the preceding machine.

MOVABLE ROLL SUPPORT FOR GILL BOX BALLER. G. Bider (Italy). USP 2 948 484, Aug. 9, 1960. (4138)

Spinning, winding, twisting B4

ELECTRIC STOP MOTION. G. C. L. Campbell (to Electronics (Bradford) Ltd). BP 834 475, May 11, 1960. Through BCIRA 40: 2641 (1960). (4139)

Photoelectric device that actuates an electromagnetic relay to work an alarm or stop the machine on the arrival of a defective piece of yarn to obstruct a beam of light directed on to a germanium transistor.

AUTOMATIC LUBRICATION OF WET SPINNING AND DOUBLING FRAMES. H. A. C. Todd (to Eadie Bros. & Co. Ltd). BP 834 682, May 11, 1960. Through BCIRA 40: 2640 (1960). (4140)

The oil is held in an elongated, constant level reservoir from which it is forced by compressed air into pipe lines leading to the various points requiring lubrication, each line having a trap for holding a predetermined dose of oil. The valves controlling the filling of the reservoir and the compressed air are operated in the required sequence by a timing device.

SPINDLES FOR RING SPINNING, DOUBLING, OR TWISTING MACHINES. F. Scragg and P. Forward (to E. Scragg & Sons Ltd). BP 834 688, May 11, 1960. Through BCIRA 40: 2639 (1960). (4141)

In order to disengage a spindle system from the driving belt (for doffing) without making the spindle proper eccentric within its ring, the spindle is fixed but its wharve has an external pinion that engages the pinion of another wharve mounted on a swingable arm for driving by the belt.

DRAFTING UNITS IN CONTINUOUS SPINNING MACHINES. J. C. Aymerich (Barcelona). BP 835 365, May 18, 1960. Through BCIRA 40: 2638 (1960). (4142)

A double-apron drafting unit is modified for use with wastes or reclaimed fiber (cotton, viscose, wool) by mounting the forward guide member for one apron in advance of the other guide so that the fiber travels over a path in contact with one drafting roller before reaching the nip. Drafts of 40-60 are claimed, and the unit may be fitted to work in tandem with another drafting unit or a false twist device.

COMBINED YARN SPINNING AND TWISTING APPARATUS. F. M. Baucom. USP 2 948 102, Aug. 9, 1960. (4143)

Apparatus for imparting a desired twist to a yarn as the yarn is unwound from a package or bobbin and guided to either feeder rolls or to another bobbin or spool.

APPARATUS FOR ASSEMBLING AND INTERTWINING DISCRETE FIBERS IN A LIQUID TO PRODUCE ROVING OR SPUN YARN. P. M. Strang and J. G. Gamble. USP 2 944 381, July 12, 1960. (4144)

The fibers are suspended in a flowing body of liquid which is made to rotate by the action of tangential jets of high pressure fluid causing the intertwisting of the fibers.

PLYING COMPOSITE YARN. C. S. Lawrence and H. M. Strub, Jr. (to Duplan Corp.). USP 2 944 383, July 12, 1960. (4145)

Three ply yarns formed from nylon strands having different shrinkage characteristics are plied together so that equal lengths of each strand are present in any given length of the composite yarn.

LINT SEALING ASSEMBLY FOR TOP DRAFTING ROLLS. K. P. Swanson. USP 2 948 024, Aug. 9, 1960. (4146)

APPARATUS FOR PRODUCING TRANSFER TAIL. W. V. Henry, D. C. Cole, and M. L. Smathers (to Am. Enka Corp.). USP 2 949 722, Aug. 23, 1960. (4147)

Portable apparatus for manually producing a transfer tail during the threading-in operation on a drawtwisting machine.

TRANSFER TAIL FORMATION ON RING-TWISTING MACHINES. O. Schröder (to Barmer Maschinenfabrik AG). USP 2 949 724, Aug. 23, 1960. (4148)

Means for disengaging the ring carrier of ring twist machines to facilitate the repair of yarn breaks during winding, bobbin replacement, or transfer tail formation.

FALSE TWISTING HEAD FOR TWO-PLY YARN. G. Renzini (to Pirelli SpA). USP 2 949 725, Aug. 23, 1960. (4149)

The twisting head is driven by the thread on the outer bobbin while effecting the false twist of the thread from the inner bobbin, and means are provided for drawing-off the plied yarns under pre-stressed conditions to achieve balanced tension.

RING SPINNING AND TWISTING FRAMES. H. Latus (to Allgauer Maschinenbau GmbH). USP 2 949 726, Aug. 23, 1960. (4150)

The balloon rings are of a diameter smaller than that of the twisting or traveler rings to reduce yarn tension and consequent traveler wear. They are mounted so that they can be moved upward relative to the ring rail to permit easy doffing of the wound cops.

Yarns B5

SLUB YARN PRODUCING APPARATUS. R. A. Smith (to Am. Viscose Corp.). USP 2 948 931, Aug. 16, 1960. (4151)

Yarns having a prearranged thick-thin pattern are produced by means of a mechanism which is combined with a Casablancas-type spinning frame.

PRODUCTION OF TWISTLESS STAPLE FIBER YARNS. G. Tissot and E. Teissier (to Soc. de Constructions Mecaniques de Stains). USP 2 946 180, July 26, 1960. (4152)

The yarns are formed by impregnating a top of untwisted staple fibers with a water-soluble binder (e.g. gelatin), false twisting, drying and untwisting, and winding the resultant yarn into a package.

MANUFACTURE OF WOOL-LIKE INTERRUPTED FILAMENT YARNS. A. Nai (Italy). USP 2 948 103, Aug. 9, 1960. (4153)

Continuous filament yarns are subjected to a tearing, abrading, or roughening process during twisting, collected in yarn cakes which are immersed in a lubricating bath, and then further subjected to a tearing, abrading, or roughening process during twisting.

PERMANENT CRIMPING PROCESS FOR CELLULOSE YARNS. V. D. Wheat and W. Hadfield, Sr. (to Am. Viscose Corp.). USP 2 950 521, Aug. 30, 1960. (4154)

The K-set process consists of mechanically crimping a regenerated cellulose yarn, impregnating the yarn with a thermosetting finish to set the crimp, mechanically straightening the yarn, processing it into a fabric, and wetting the fabric to restore the crimp.

PRODUCTION OF HAIR YARN. S. Mandukich (to Neely Mfg. Co.). USP 2 950 591, Aug. 30, 1960. (4155)

Method of producing yarn suitable for use as the filling in the weaving of hair canvas (for garment interlinings) from synthetic fibers and goat hairs on the cotton system.

FABRIC PRODUCTION C

Warping, slashing, yarn preparation C1

APPARATUS FOR REGULATING THE THREAD TENSION IN CONE WINDING. W. Reiners (Germany). BP 834 570, May 11, 1960. Through BCIRA 40: 2659 (1960). (4156)

A brake that puts more tension on the yarn at the base of the cone than at the tip comprises a pair of spaced arms with oblique edges, made of transparent material and mounted on a stationary part of a thread guide of the drum type.

APPARATUS FOR TYING BARREL KNOTS. G. R. Bethune, Jr. (to Goodyear Tire & Rubber Co.). USP 2 947 558, Aug. 2, 1960. (4157)

TENSION DEVICE FOR PROCESSING THERMOPLASTIC YARNS. N. J. Stoddard and W. A. Seem (to Leesona Corp.). USP 2 949 253, Aug. 16, 1960. (4158)

TRAVERSE MECHANISM FOR WINDING MACHINE. U. J. Rutgers (to Am. Enka Corp.). USP 2 950 068, Aug. 23, 1960. (4159)

The mechanism maintains a constant length of yarn travel between a stationary yarn guide and a traversing yarn guide by means of a floating linkage between the two.

HIGH SPEED FILAMENT WINDING MACHINE. J. V. Keith (to Leesona Corp.). USP 2 950 067, Aug. 23, 1960. (4160)

SELF-COMPENSATING COMB FOR CONTINUOUS BEAMING. G. T. Lindstrom (to E. I. du Pont de Nemours & Co.). USP 2 950 518, Aug. 30, 1960. (4161)

EXPANSION COMB OR HOOK REED FOR SLASHERS AND BEAMERS. D. L. Gilstrap. USP 2 950 519, Aug. 30, 1960. (4162)

Weaving C2

LOOM PICKERS. R. Walton and F. S. Walton (to T. & J. Walton Ltd). BP 835 219, May 18, 1960. Through BCIRA 40: 2661 (1960). (4163)

A picker of the type formed in buffalo hide with a tubular part that fits over the picker spindle and two flaps which, when riveted together, present end surfaces that engage the shuttle, is provided with an insert of similar form, made of resin-impregnated, laminated fabric or a molded plastic. The sandwich is bound together by rivets, screws, or an adhesive.

LOOMS WITH WEFT INSERTION BY COMPRESSED AIR. Vyzkumny Ustav Tvarecich. BP 835 280, May 18, 1960. Through BCIRA 40: 2660 (1960). (4164)

The claims are for cam-controlled valves for the intermittent admission of compressed air to, and its cutoff from, the nozzle that provides the jet propulsion. A dash-pot device is used to delay the closing of the cutoff valve against the urge of a spring on its piston, the extent of the delay being adjusted by the viscosity of the oil in the dash-pot, the strength of the spring, and the width of the restricted passage for the oil between the piston and its cylinder.

PILE FABRIC WEAVING APPARATUS. W. Bejeuhr. USP 2 948 302, Aug. 9, 1960. (4165)

High speed apparatus consisting of a pair of superposed loop forming conveyors moving continuously in the same direction and filler yarn needles which are inserted and withdrawn through the chain yarn loops formed by the conveyors while traveling in the same direction and in synchronization with the conveyors. To form the pile fabric, the pile wires are not reciprocated but are fed sideways into pile loop forming position.

SPRING GUIDE BOX FRONT FOR SHUTTLE BOX. W. B. Cathey. USP 2 948 303, Aug. 9, 1960. (4166)

Attachment for conventional shuttle boxes for guiding the shuttle against one side of the box to reduce its tendency to strike against the reed.

HEDDLES. O. Wagner (to Grob & Co. AG). USP 2 949 936, Aug. 23, 1960. (4167)

To facilitate proper separation of the heddles during drawing-in, one edge of the flat straight portion between the eyes at each end of the heddle is chamfered.

BOBBIN SUPPORTS FOR ROTARY MAGAZINES OR BATTERIES IN AUTOMATIC LOOMS. L. G. Urquhart (to H. F. Livermore Corp.). USP 2 949 938, Aug. 23, 1960. (4168)

PICKER STICK CHECK STRAP ELIMINATOR. F. L. Goodnough and D. D. Goodnough. USP 2 949 937, Aug. 23, 1960. (4169)

Combination picker stick check mechanism and friction box for attachment to a loom lay which eliminate the use of flexible check straps.

Knitting C3

MULTIPLE-FEED CIRCULAR HOSIERY MACHINES. J. J. McDonough (to Scott & Williams, Inc.). USP 2 948 130, Aug. 9, 1960. (4170)

Mechanism for setting up and holding an initial course of welt loops for knitting an inturned welt while the initial course of the stocking is being formed on bare needles and for transferring the loops to the needles to close the welt.

YARN FEED CONTROL FOR KNITTING ARGYLE HOSIERY ON CIRCULAR KNITTING MACHINES. N. Levin (to Textile Mach. Works). USP 2 948 131, Aug. 9, 1960. (4171)

By means of the mechanism, the overplaid yarn feeding fingers, at each knitting station, may be alternately moved into and out of feeding position in successive knitting strokes.

BOUCLE KNIT FABRIC FROM HELICALLY CRIMPED YARNS. I. Schwartz. USP 2 948 133, Aug. 9, 1960. (4172)

The fabric is knit of alternate courses composed respectively of two different continuous filament yarns, each characterized by the same magnitude of liveliness but oppositely directed, and each composed of two oppositely twisted, helically crimped strands.

KNIT FABRIC LOOPING MACHINE. S. I. Burd, N. Mayer, and W. B. Berman (to Prestige, Inc.). USP 2 948 240, Aug. 9, 1960. (4173)

Mechanism for automatically impaling all the stitches for looping on a sewing dial after a small number have been manually placed on spaced loading points.

SEMI-SURGICAL MEN'S HOSIERY. M. N. Holmes (to Burlington Inds.). USP 2 949 023, Aug. 16, 1960. (4174)

Knee length sock knit throughout of stretch yarn and a leg portion of an elastic core yarn laid into spaced portions.

WARP KNITTING MACHINE FOR PILE FABRICS. R. S. MacCaffray, Jr. (to C. H. Masland & Sons). USP 2 949 754 and 2 949 755, Aug. 23, 1960. (4175)

The entire warp knitting cycle is accomplished by one forward and backward swing of the swing bar, with intermediate dwells.

YARN FEED FOR CIRCULAR HOSIERY MACHINES. H. L. Curtis (to Scott & Williams, Inc.). USP 2 949 756, Aug. 23, 1960. (4176)

Compensating yarn feed which furnishes yarn to the needles at a uniform rate and tension despite variations in drag on the yarn from the supply source or sudden stops and starts in machine demand.

KNITTING MACHINE MAGNETIC CONTROLLED YARN TENSION DEVICE. F. R. Page (to Scott & Williams, Inc.). USP 2 949 757, Aug. 23, 1960. (4177)

Repulsion magnetic means are combined with a comb tension device to retain excess tension on the yarn until it is seized by the needles.

GETAZ TOE CLOSURE FOR SEAMLESS HOSIERY. J. L. Getaz (to U. S. Trust Co.). USP 2 950 611, Aug. 30, 1960. (4178)

By means of gores extending from points adjacent the heels to points adjacent the toe, the entire sole portion of the hosiery may be constructed of heavier yarn without interfering with the fine yarn used on the sides and upper portion of the foot.

Fabrics C4

BELTS AND NETS FROM SYNTHETIC YARNS. Viso SA. BP 834 426, May 11, 1960. Through BCIRA 40: 2663 (1960). (4179)

A yarn of oriented polyamide or polyester (e.g. inter-twisted monofils) is provided by injection molding with a succession of blobs of a thermoplastic material. A belt made from such yarn is intended to be used with pulleys that have corresponding grooves into which the blobs fit. The same principle is applied to the making of a net, the blobs being applied at the crossing points.

PRODUCTION OF POWER TRANSMISSION AND CONVEYOR BELTING. G. E. Watts and S. B. Hainsworth (to J. H. Fenner & Co. Ltd). BP 835 298, May 18, 1960. (Addition to BP 770 524). Through BCIRA 40: 2666 (1960). (4180)

The solid-woven belting of the parent invention (fabric impregnated with polyvinyl chloride) is woven in multiples of the required width and cut to size while the impregnant is only partially gelled. The cut edges are dressed with the same impregnant and gelling (by heat) is completed.

WARP KNITTED PILE CARPET HAVING EACH PILE END BOUND ENTIRELY IN ONE WALE. R. S. MacCaffray, Jr. (to C. H. Masland & Sons). USP 2 943 470, July 5, 1960. (4181)

AXMINSTER CARPET WITH CUT AND UNCUT PILE PROJECTIONS. M. W. Worth (to James Lees & Sons Co.). USP 2 946 355, July 26, 1960. (4182)

ELASTIC BRAIDED BAND. K. Huppertsberg (Germany). USP 2 948 182, Aug. 9, 1960. (4183)

A band expansible in its longitudinal direction is made by introducing, into a flat braid, elastic warp strands consisting of flat braids containing rubber threads as warp.

PAPERMAKERS FELTS. T. Hindle, S. Lord, and E. Race (to Scapa Dryers Ltd). USP 2 949 134, Aug. 16, 1960. (4184)

The felt is made up of fibers of differing electrostatic properties, e.g. Dacron, nylon, and cotton, in such a proportion that the generation and/or accumulation of static electricity is reduced or eliminated.

CONTINUOUS METHOD OF MANUFACTURING SECTIONS AND RODS OF GLASS FIBER-REINFORCED PLASTIC. H. J. J. Pancherz (Sweden). USP 2 948 649, Aug. 9, 1960. (4185)

SEMI-STIFF FABRIC LAMINATES. M. W. Alford and A. R. Brearley (to Brit. Celanese Ltd). USP 2 949 393, Aug. 16, 1960. (4186)

The fabric consists of two outer layers of cellulose triacetate and an interlining layer of cotton, viscose, or cellulose acetate which are bonded together by a cyclic amide such as epsilon-caprolactam, thus avoiding the use of volatile organic liquids.

AUTOMOBILE FLOOR MATS FROM STRETCHABLE KNIT FABRICS. W. A. Rice (to Mohasco Inds.). USP 2 949 660, Aug. 23, 1960. (4187)

The fabric is distorted to fit the contour of the desired area and held in that condition by means of a latex undercoating.

FISHING NET OF BRAIDED SYNTHETIC FILAMENTS. A. G. Herzog, H.-F. Kaltheuner, and C.-H. Reussner (to Farbenfabriken Bayer AG). USP 2 949 807, Aug. 23, 1960. (4188)

The claims are for a soutache braid of nylon reinforced by a glass fiber filament.

FOAM BACKED CARPET. J. Bauer and C. Campbell (to Collins & Aikman Corp.). USP 2 950 221, Aug. 23, 1960. (4189)

Method of producing foam backed carpets with edges resistant to tearing and capable of being seamed.

ONE SHOT WEAVING OF PILE CARPETS. T. T. Janney and R. J. McCann (to James Lees & Sons Co.). USP 2 950 741, Aug. 30, 1960. (4190)

The carpet is characterized by a single plane of double weft shots out of which the pile surface projects, the individual pile projections being tied under selected double weft shots. In weaving, a transverse pile wire is inserted into a shed for each needle insertion of a double weft shot.

METHOD FOR THE PRODUCTION OF RETICULATE WEBS. P. C. Watson and H. O. McMahon (to Am. Viscose Corp.). USP 2 950 752, Aug. 30, 1960. (4191)

The fibrous, reticulated web formed by spraying natural or synthetic rubber into a high velocity gas stream has the same feel as foam or sponge rubber but is characterized by greater permeability and strength. See also USP 2 951 005.

FINISHING D

STRETCHING OF PAPER, FABRIC, AND THE LIKE. J. F. Collier (to J. F. Collier & Co. Ltd). BP 832 106, Apr. 6, 1960. Through BCIRA 40: 2339 (1960). (4192)

A variable camber bar for stretching paper and fabric is made in hollow sections that are slightly tapered at one end so that they fit together end to end. Passing through the bar is a rod that can be tensioned by turning a handwheel. This causes bowing of the camber bar to various extents.

Chemical processes D1

CREASE-RESIST TREATMENT OF FABRICS. F. Brown and F. C. Wood (to Tootal Broadhurst Lee Co. Ltd). BP 831 297, Mar. 30, 1960. Through BCIRA 40: 2336 (1960). (4193)

The invention relates to a crease-resist finish on cellulosic fabrics with formaldehyde/urea/glyoxal resins that does not suffer as much as usual from the defect of chlorine retention (from bleach liquors) and subsequent tendering or yellowing. This result is achieved by restricting the molecular proportions of the resin components between 3:1:1 and 4:1:1 and using boric acid as the acidic catalyst.

BRIGHTENING AGENTS COMPRISING ARYLPYRAZOLINES. Farbenfabriken Bayer AG. BP 832 239, Apr. 6, 1960. Through BCIRA 40: 2321 (1960). (4194)

The claims are for fluorescent compounds such as 1-p-carboxyphenyl-3-phenylpyrazoline.

APPARATUS FOR IMPREGNATION OF FABRICS. N. Lawson (to Lewis & Tylor Ltd). BP 833 468, Apr. 27, 1960. Through BCIRA 40: 2337 (1960). (4195)

In a process for the impregnation of a porous, compressible material with a solidifiable substance in the liquid state, e.g. solid-woven belting with plastic emulsions, pastes and rubber, the material is run downwards through the nip of two rollers A and B, under a guide roller submerged in the liquid, and up through the nip of roller B and another roller C. The nip between A and B occurs just below the surface of the liquid and that between B and C just above the surface. The nip pressures are controlled by screws and handwheels.

ANTISTATIC AGENT FOR HYDROPHOBIC SYNTHETIC FIBERS OR YARNS. NV Onderzoekingsinst. Research. BP 833 699, Apr. 27, 1960. Through BCIRA 40: 2229 (1960). (4196)

The antistatic agent is a salt of an anionic and a cationic surface-active agent plus an excess of either agent.

POLYGLYCOL ETHER DERIVATIVES AS SOFTENING AGENTS FOR VISCOSE. Ciba Ltd. BP 833 748, Apr. 27, 1960. Through BCIRA 40: 2227 (1960). (4197)

Polyamines of the type of diethylene triamine are condensed with stearic acid in an atmosphere of nitrogen and the amidic products are treated with ethylene oxide until about 8-30 $-CH_2 \cdot CH_2 \cdot O-$ groups have been established per molecule.

COMBINED DESIZING AND BLEACHING PROCESS. Kalle & Co. AG. BP 833 914, May 4, 1960. Through BCIRA 40: 2472 (1960). (4198)

Desizing and bleaching are effected in one stage by impregnating the cloth with a neutral liquor containing (1) sodium chlorite, (2) a substance that develops acid only at a temperature above 60° C (e.g. ammonium sulfate) and (3) an amylolytic agent (bacterial or pancreatic) that is active at a temperature below 60° C. The cloth is impregnated at below 60° C and the temperature is slowly raised.

STIFFENING OF POLYETHYLENE TEREPHTHALATE FABRICS. R. Cox (to Courtaulds Ltd). BP 834 312, May 4, 1960. Through BCIRA 40: 2475 (1960). (4199)

A permanent (washable) stiff finish is imparted to the fabric by first treating it with an alkali, washing, impregnating with a methylated melamine or urea formaldehyde precondensate, drying, and baking at 200-220° C.

TREATMENT OF MATERIALS WITH LIQUIDS UNDER ULTRASONIC IRRADIATION. G. Bradfield (to Nat. Research Develop. Corp.). BP 834 403, May 4, 1960. Through BCIRA 40: 2509 (1960). (4200)

The invention relates to processes such as the tanning of hides, cleaning of fabrics, retting of flax and so forth under conditions in which cavitation pockets are created in the liquid by ultrasonic vibrations and are caused to impinge on the material and thereby collapse. The material is held rigid, e.g. on a rotating drum.

OPTICAL BRIGHTENING MATERIALS. Farbenfabriken Bayer AG. BP 834 903, May 11, 1960. Through BCIRA 40: 2698 (1960). (4201)

The fluorescent agents are 5:6-benzocoumarin-3-carboxylic acid, its nitrile and its methylamide.

HYDROGEN PEROXIDE VAPOR TREATMENT OF A MOVING WEB. F. B. Bjarnow, M. T. Cichelli, and A. G. Hamilton (to E. I. du Pont de Nemours & Co.). USP 2 939 760, June 7, 1960. (4202)

POWDERED FABRIC SOFTENER CONTAINING UREA INCLUSION COMPOUND OF HYDROGENATED TALLOW QUATERNARY AMMONIUM SALT. M. S. Sniegowski (to Corn Products Co.). USP 2 940 816, June 14, 1960. (4203)

MOTHPROOFING WOOL AND OTHER KERATINACEOUS MATERIALS. L. M. Kozloff (to Hightower-Morse & Co.). USP 2 945 735 and 2 945 736, July 19, 1960. (4204)

Pyridine-3-sulfonic acid (2 945 735) and benzimidazole (2 945 736) are claimed as mothproofing agents.

LOW COVER FACTOR WOVEN CELLULOSE TEXTILE MATERIAL RESISTANT TO CORRUGATION IN WASHING AND TUMBLE DRYING. C. Harmon (to Chicopee Mfg. Corp.). USP 2 945 738, July 19, 1960. (4205)

The fabric is impregnated with an acetal condensation product and cured at an elevated temperature. The fabric, i.e. for baby diapers, preserves its original softness, hand, and absorbency.

ANTISTATIC AGENTS FOR HYDROPHOBIC FIBERS. C. J. Waitkus (to Am. Viscose Corp.). USP 2 945 774, July 19, 1960. (4206)

The antistatic agent is obtained by reacting oleic acid and an aliphatic polyamine and cross-linking the resultant oleylamidoalkylamine with carbamic acid. The reaction product is further modified by the addition of a phosphoric anion.

APPARATUS FOR LIQUID TREATMENT OF TOW BUNDLES. C. F. Oldershaw (to Dow Chem. Co.). USP 2 949 337, Aug. 16, 1960. (4207)

APPLYING WAX COATING TO WOUND GLASS FIBER STRANDS. W. A. Brunnick and C. H. Helbing (to Pittsburgh Plate Glass Co.). USP 2 946 698, July 26, 1960. (4208)

Uniform impregnation is obtained by first drying the package and recycling wax from the exterior to the interior of the package and through the openings of the perforated yarn tube by means of a pressure differential.

ORNAMENTATION OF SHEET MATERIAL. G. Landells and W. Bragg (to Bradford Dyers' Assoc. Ltd and Bleachers' Assoc. Ltd). USP 2 947 058, Aug. 2, 1960. (4209)

Fabrics or plastic sheets are ornamented by the application of compressive shrinkage to cause buckling or crinkling. The fabric or sheet is run through the apparatus in contact with paper or other material which buckles, and the surface effect is transferred to the fabric or plastic.

FLAME RETARDING COMPOSITION AND TREATED FABRIC. J. D. McCluer (to Thermoid Co.). USP 2 948 641, Aug. 9, 1960. (4210)

Flexible, resilient, and heat retardant fabric characterized by a smooth texture is prepared by impregnating an asbestos base fabric with an aqueous medium containing a fluoborate salt, mica, and a plasticizer.

FIRE-RETARDANT PROCESS FOR CELLULOSE FIBERS. J. E. Malowan and M. L. Nielsen (to Monsanto Chem. Co.). USP 2 949 385, Aug. 16, 1960. (4211)

The water soluble hydrolyzed derivative of the reaction product of phosphorus oxychloride and ammonia is claimed as a flameproofing agent.

METHOD OF PRODUCING WRINKLE RESISTANT GARMENTS AND OTHER ARTICLES OF COTTON. M. D. Hurwitz (to Rohm & Haas Co.). USP 2 950 553, Aug. 30, 1960. (4212)

In order to avoid such difficulties as needle-cutting or resistance to pressing, the fabrics are treated with an aminoplast condensate and catalyst without curing prior to the making up of garments or other articles and then, after the making-up process, curing the condensate by a simple pressing or ironing.

Dyeing and printing D2

APPARATUS FOR THE PRINTING OF MOVING WEBS OF MATERIAL. O. Posch. BP 832 453, Apr. 13, 1960. Through BCIRA 40: 2333 (1960). (4213)

The fabric is moistened with a solvent for the color and passed between two squeezing rollers, one of which is driven, and under the color roller which is pressed down on the fabric where it lies on the driven squeezing roller. The color roller, loaded with color mass, is mounted in a pivoted frame by means of which it can be brought against the fabric or tilted to a position where it can be removed. Compressed air is the source of power for pressing the roller onto the fabric (a gage is used to regulate the pressure) or lifting it away. An oiled, rotating cutter is used as doctor device.

DYEING OF YARNS IN HANK FORM. W. B. Brown and F. H. Marsh (to Longclose Eng. Co. Ltd). BP 832 498, Apr. 13, 1960. Through BCIRA 40: 2323 (1960). (4214)

In the dyeing of hanks in a vessel in which they hang in rows from sticks, an eyeletted rod is passed through each hank and other rods are threaded through the eyelets to constitute a frame that keeps the hanks in place at the lower level.

PATTERNED CRIMPED FABRICS. Heberlein & Co. AG. BP 833 145, Apr. 21, 1960. Through BCIRA 40: 2334 (1960). (4215)

The claims are for the production of pattern effects in woven or knitted fabric containing elastic crimped yarns of nylon, Terylene, etc. The fabric is stretched to release the crimp, the particular areas are printed with a hardenable composition (e.g. a urea-formaldehyde condensate) which is set by heating, and the crimp is restored in the other regions by washing and/or steaming the fabric after relaxing the tension.

INCREASING DYEABILITY OF POLYACRYLONITRILE FIBERS. F. L. Schouteden (to Gevaert Photo Producten NV). BP 833 204, Apr. 21, 1960. (Addition to BP 786 960). Through BCIRA 40: 2329 (1960). (4216)

The affinity for dyes of polymers containing nitrile groups, e.g. acrylonitrile polymer fibers (Orlon), is increased by causing the CN groups to react with hydroxylamine and further increased by boiling the product with dilute ammonia, hydrazine or organic base.

PRODUCTION OF VISCOUS PRINTING PASTES OF THE OIL-IN-WATER TYPE. Badische Anilin und Soda Fabrik AG. BP 833 602, Apr. 27, 1960. Through BCIRA 40: 2330 (1960). (4217)

A printing and dyeing paste of the oil-in-water type having a gasoline hydrocarbon in the inner phase, a pigment dye in the outer phase, and a film-forming substance (e.g. a synthetic resin) as binder is made up with a small amount (1-6%) of a polyethylene oxide, m.w. 2,500-8,000.

PROCESS FOR PADDING TEXTILES WITH ESTERS OF LEUCO VAT DYESTUFFS. Farbwerke Hoechst AG. BP 833 668, Apr. 27, 1960. Through BCIRA 40: 2324 (1960). (4218)

Difficulties in achieving correct shade in pad-dyeing with esters of leuco vat dyes, because of their differing substantivities, are overcome by adding to the pad liquor a higher N-alkylpyridinium salt, e.g. cetylpyridinium chloride.

FAST DYEINGS AND PRINTS ON POLYAMIDE AND POLYURETHANE FIBERS. Farbwerke Hoechst AG. BP 833 669, Apr. 27, 1960. Through BCIRA 40: 2327 (1960). (4219)

An arylamide of 5:6:7:8-tetrahydro-2-hydroxynaphthalene-3-carboxylic acid is coupled on the fiber with tetrazotized 4:4'-diaminodiphenyl.

AUTOMATIC WEB RENEWING MECHANISM FOR PRINTING MACHINES. T. R. Bennett (to R. W. Crabtree & Sons Ltd). USP 2 950 874, Aug. 30, 1960. (4220)

PROCESS FOR PADDING VEGETABLE FIBROUS MATERIALS WITH ESTERS OF LEUCO VAT DYESTUFFS. Farbwerke Hoechst AG. BP 833 674, Apr. 27, 1960. Through BCIRA 40: 2325 (1960). (4221)

The pad liquor is mixed with the sulfate or phosphate of a product of the action of ethylene oxide on oleyl alcohol, oleic acid, oleylamine, stearamide, and similar higher amines and amides.

DYEING OF TEXTILE ARTICLES. Bellfour für Verfahren und Trocknungstechnik GmbH. BP 833 773, Apr. 27, 1960. Through BCIRA 40: 2322 (1960). (4222)

The articles are arranged on forms and the dye liquor--a small volume--is allowed to flow from above over the articles, collected and pumped back to the dyeing vessel, the temperature being brought back to the required level by injecting steam.

TEXTILE PRINTING MACHINERY. F. B. Mercer and S. Shorrock (to Brit. Tufting Machy. Ltd). BP 834 123, May 4, 1960. Through BCIRA 40: 2474 (1960). (4223)

The invention relates to means for printing on pile and raised fabrics, blankets, felts and towels so that the dye reaches the bottom of the material without spreading. The pattern is formed in relief on the printing roller by elements of resilient cellular material (e.g. foamed or sponge plastic or rubber on a rubber base) that take up the dye as the roller rotates in a dye bath.

LEVELING AGENTS FOR VAT OR SULFUR DYES. Badische Anilin und Soda Fabrik AG. BP 834 393, May 4, 1960. Through BCIRA 40: 2473 (1960). (4224)

The claims are for the use, as leveling agents, of compounds that contain in the molecule 3-5 lactam rings each of 5-7 members linked between N atoms by long carbon chains that contain hetero O, S, or N groups.

SCREEN PRINTING MACHINES. M. Moss (to Colden Mfg. Co. Ltd). BP 834 582, May 11, 1960. Through BCIRA 40: 2702 (1960). (4225)

To overcome the tendency of conveyor belts to shrink or stretch by irregular amounts, their movement, in screen printing, is governed by pusher members that comprise spaced teeth or projections on a bar at each side of the machine and coact with adjustable abutments along each edge of the belt.

PRINTING POLYESTER FIBERS. Farbwerke Hoechst AG. BP 834 888, May 11, 1960. Through BCIRA 40: 2703 (1960). (4226)

Polyester fabrics are printed with a paste containing guanidine carbonate and, if desired, o-phenylphenol or thiodiglycol; the fabric is then heated for 30 sec-1 min at about 200° C. The printed parts may be transparent, capable of raising a nap, or destroyed, according to the conditions.

DYEING POLYACRYLONITRILE FIBER BY MODIFIED CUPROUS ION METHOD. M. Scalera, F. Brody, C. L. Zimmerman, and A. B. Ulmes (to Am. Cyanamid Co.). USP 2 939 759, June 7, 1960. (4227)

The cuprous ion is present in the dyebath in the form of certain complex ions containing at least one cyano group which release the cuprous ion gradually to achieve level dyeing without crocking.

KNIT GOODS ROTARY DRUM PRINTING MACHINE. E. V. Disch (to Plainfield Patents Corp.). USP 2 946 280, July 26, 1960. (4228)

DYEING CELLULOSE WITH ACID WOOL DYES. E. L. Kropa (to Am. Cyanamid Co.). USP 2 947 594, Aug. 2, 1960. (4229)

To render cellulose susceptible to dyeing with acid wool dyes, the fiber is pretreated with a quaternary ammonium compound having a terminal vinyl group.

Mechanical processes D3

WEB WINDING APPARATUS. Benteler Werke AG. BP 834 388, May 4, 1960. Summary in BCIRA 40: 2471 (1960). (4230)

CUTTING DEVICES FOR CUTTING ROWS OF LOOPS OF A FABRIC. Velcro SA. BP 835 052, May 18, 1960. Through BCIRA 40: 2706 (1960). (4231)

The device comprises two comb-like cutters, one fixed and the other moving to and fro. When used to cut the loops of a terry or velvet fabric it severs one side of a loop and leaves a short piece and a hook-like piece.

WEB REELING AND GUIDING MECHANISMS. J. L. Meagher, Jr. and E. A. Baril (to Plainfield Patents Corp.). USP 2 947 057, Aug. 2, 1960. (4232)

Automatic mechanism for protecting the web against distortion in width and length and preventing wrinkle formation.

APPARATUS FOR CONTROLLING TENSION IN NYLON TIRE CORD DURING HOT STRETCHING. H. F. Umstott (to Firestone Tire & Rubber Co.). USP 2 947 060, Aug. 2, 1960. (4233)

HOLLOW PRESSURE ROLLS FOR TEXTILE MACHINERY. J. J. Keyser (to Schiess AG). USP 2 950 507, Aug. 30, 1960. (4234)

Drying, setting, conditioning D4

APPARATUS FOR DRYING PAPERMAKERS FELT. E. Kay (to Hall & Kay Ltd). BP 834 638, May 11, 1960. Summary in BCIRA 40: 2708 (1960). (4235)

CLIP AND PIN BAR CHAIN FOR TENTERING MACHINES. H. Liebert (to Trockentechnik Kurt Brückner KG). USP 2 945 280, July 19, 1960. (4236)

The chain is provided with both clips and pin bars which may be used selectively.

WILLOW OR SIEVE DRUM DRYER FOR LOOSE FIBERS. G. Fleissner (to Fleissner & Sohn Maschinenfabrik). USP 2 950 540, Aug. 30, 1960. (4237)

Means for conveying a bat of loose fibers uniformly along the upper surfaces of a series of perforated drums while preventing the fibers from sticking to the individual drums, from being rolled up between adjacent drums, or from partly dropping off the drums.